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ABSTRACT

This three-part document contains several presentations and commentaries which represent further elaboration and clarification of the respective positions held by contributors to a 1988 American Psychological Association symposium on futures in school psychology. Part I contains the following presentations: (1) "Conceptualizing the Future of School Psychology" (DeWayne Kurpius and M. Scott); (2) "Instructional Consultation: A Model for Providing Classroom-Based Support Services" (Sylvia Rosenfield); (3) "Cognitive-Behavioral School Psychology: Current Issues and Future Directions" (Jan Hughes); (4) "Early Intervention, Preschool Services, and the Future of School Psychology" (Kathleen Paget); and (5) "Biological Bases of Behavior and School Psychology: Riches or Ruin?" (Cecil Reynolds). Part II contains two commentaries on the foregoing chapters, "Futures in School Psychology: Commentary" (George Hynd) and "Planning the Future of School Psychology" (Michael Curtis). Part III, "What Can We Learn from 'Yertle the Turtle'?" (Marvin Fine), is a critical summing-up of foregoing presentations which includes both reiterations and some additional thoughts on the future of school psychology. (NB)

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ASPECTS OF LEARNING

School Psychology:

Cutting Edges in Research and Practice

Maynard C. Reynolds, Editor

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PREFACE

The genesis of this monograph was a 1988 American Psychological Association symposium (sponsored by the Division of School Psychology) that looked at "futures in school psychology." The current presentations and commentaries represent further elaboration and clarification of the contributors' respective positions. The content of the monograph is an exciting blend of ideas, methodology, and future projections. However, because of its brevity, *School Psychology* was not meant to present a complete conceptualization of the practice of school psychology. It projects some images of how school psychology might enhance its effectiveness through utilizing certain modalities of intervention as well as targeting certain populations.

Attempts to meet the needs of traditionally served populations, such as handicapped students, have not always been successful because of technical, philosophical, or organizational issues. The growing professional alertness to at-risk students increases the urgency for us to examine and improve the delivery of psychological services.

You might agree with some chapters and strongly disagree with others. All the contributors want to see school psychology be something other than a narrow "test and report" or special education "gatekeeper" function. And all the contributors would like to see school psychologists more involved with students, teachers, and the processes of learning and of schooling in general.

By projecting a particular viewpoint, each contributor has chosen a major arena of activity or focus for the school psychologist. Some of these viewpoints will represent drastic shifts for a given practitioner, and some might even seem untenable. The expression "he jumped on his horse and rode off in all directions" might well apply to a practitioner who attempts to move in all the directions being proposed.

If you are a school psychology practitioner, you will need to inspect this volume against the background of your current framework for practice. Are there concepts and procedures being described that can be incorporated into an existing, effective model of practice? Will a paradigm shift be required so that the practice of school psychology is conceptualized differently and new possibilities are revealed? Or will you reject the proposals being presented and essentially maintain the status quo in practice? If the latter is your chosen course of action, hopefully it is the product of a careful review of your current effectiveness in meeting the

needs of students, parents, and teachers as well as in contributing to the process of schooling.

For those of you who are not school psychologists but are likely to be educators, this potpourri of views should stimulate you to consider how the school psychologists with whom you interact function and how they could be functioning. If you are a teacher, you might want to ask your school psychologist to have greater classroom involvement and to share kinds of information different from what he or she is currently sharing. Your knowledgeable requests and receptivity might encourage the school psychologist to venture into new territories.

If you serve as an administrator, you also can use the views presented as a backdrop to the study of school psychology practices in your district. Are your school psychological services structured primarily for purposes of labeling and categorizing students? Are your school psychologists being seriously underutilized in terms of their potential contributions to students, other teachers, and your overall education program? Are preventive mental health programs and services for at-risk students available in your district? Have you asked your school psychologists for their ideas on how they could participate in assisting the schools in meeting federal and state mandates and also in enhancing the quality of their services for all students.

The first chapter by Kurpius and Scott is an exciting presentation that can open your eyes to new possibilities for the locus and process of school psychological services. Very importantly, this chapter looks at the nature of change and presents some specific vehicles by which practitioners might consider options to current practice.

The second chapter by Rosenfield depicts the school psychologist working hand in hand with teachers from a curricular point of view. In this scenario the school psychologist is able to bring her or his consultative as well as learning/teaching knowledgeability to bear on the instructional process.

Hughes's chapter on cognitive-behavioral school psychology reviews concepts and strategies that school psychologists can use with a range of behavior and learning problems. She expands the more familiar behavioral viewpoint by including cognitive considerations that broaden the applications and the potential effectiveness.

The chapter on early intervention by Paget addresses current legislated changes in the mandating of services to young children. Specific implications for training and practice are considered in what is clearly a major new thrust for school psychology.

Finally, in terms of the initial position papers, Reynolds presents a provocative chapter on the importance of school psychologists' considering the biological bases of behavior. In presenting his ideas, he demonstrates an awareness of both professional and conceptual issues.

The second part of the book includes commentaries on the foregoing chapters by two widely published leaders in the field of school psychology, George W. Hynd and Michael J. Curtis. Their insights and reactions add considerably to the substantive value of the monograph in depicting directions in which school psychology ought to travel.

The last chapter, by this writer, is a critical summing-up of the foregoing presentations. It includes both reiterations and some additional thoughts that hopefully are useful additions to the monograph.

The contributors are all active researchers and trainers in the field of school psychology. They are all prolific contributors to the school psychology literature, active in professional organizations, and excellent conceptualizers of professional practice. In addition, they have all worked as school psychologists, have continued regular involvement over the years with aspects of direct service, and have remained in close contact with the contemporary field of school psychology.

—Marvin J. Fine

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1. CONCEPTUALIZING THE FUTURE OF SCHOOL PSYCHOLOGY

by DeWayne J. Kurpius and M. M. Scott

This chapter sets forth a conceptualization of the future of school psychology. Several roles are suggested that involve self-questioning, reviewing assumptions that underlie activities, and challenging traditions that guide performance. Activities thought to be extremely important in the future are modeling outreach and advocacy, utilizing theory and research in everyday practice, practicing primary prevention and change agentry, implementing a systems model, and practicing paradigm shift thinking. Specific applications to school psychology are suggested.

INTRODUCTION

The purpose of this chapter is to set forth a conceptualization of the future of school psychology. In "visioning" the future, we could first relate progress in the field to existing norms, standards, and objectives; we could then encourage action, if necessary. In our professional lives, many of us engage in this kind of process; we compare our performance with established objectives, many of which have become institutionalized, and we self-correct, if necessary. Argyris and Schon (cited in Morgan 1986) refer to this as "single loop learning."

Rather than using the approach described above, however, we have attempted to vision the future by taking a "double look" at current norms, standards, objectives, and practices in our field. Instead of relying on "business as usual" as the measuring stick for the future, we suggest several roles for the school psychologist that involve self-questioning, reviewing assumptions that underlie activities, and challenging traditions that guide performance. This entails adding another "loop" to the learning process, effecting "double loop learning" (Morgan 1986). The extra loop adds a look at the appropriateness of the norms that presently guide the profession.

In line with this reasoning we see the following activities of school psychologists as extremely important in the future: modeling outreach and advocacy, utilizing theory and research in everyday practice, practicing

primary prevention and change agentry, implementing a systems model, and practicing paradigm shift thinking.

All these activities provide vehicles for further inquiry, and all are sufficiently open-ended to allow a "re-visioning" of the future. As such, we hope that these concepts will be used to provide well-guided, creative interventions to our clients and to society.

MODELING OUTREACH AND ADVOCACY

It is through outreach that advocacy can occur. Outreach is the extension of services to populations in need. In the late 1980s the at-risk population is such a group. These are students who, because of poverty, the low educational level of their parents, disorganized family structures, etc., have an increased probability of failing in school and/or of dropping out before completing high school (National Commission on Excellence in Education 1983; Scott 1988).

School psychologists, when following an outreach and advocacy orientation, will work toward altering situations that disenfranchise or dehumanize persons with whom they come in contact or whom they serve in a larger target population. Many times this means taking professionals out of their comfortable offices and thrusting them into the real world where humans are in need. As such, outreach services often require diversification and nontraditional methods of intervention in order to advocate and bring attention to the interventions needed.

As stated in *Webster's New World Dictionary*, an advocate is "a person who pleads another's cause" or "a person who speaks or writes in support of something." A school psychologist who assumes the advocacy role might find herself or himself engaged in a process of protecting the rights of those who are unable to help themselves. A common role is that of organizer, helping to empower those in need or advocating more global change that will help the client succeed. Depending on the problem (e.g., depression) and the people in need (e.g., minorities), our assessment of underlying causes may send us into the community. We may organize family doctors, parents, community action groups, and the like for interventions that extend beyond one-on-one interventions with individuals.

We must be sensitive to the needs and rights of others, check our own values and loyalties, and take risks beyond the traditional role often proposed for school psychologists. In extreme situations we school psychologists may have to decide if our loyalty is a commitment to the employer (e.g., our institution, other psychologists, etc.) or if it is a commitment to promote the growth, well-being, and rights of our clients and related populations.

Tulkin (1972) has shown that U.S. psychologists studying child rearing in other cultures tend to attribute differences to reasonable and systematic acts on the part of the adults in these other cultures. When these psychologists study subcultures within the United States, however, differences between the subculture and the so-called "dominant mainstream culture" are attributed to deficits on the part of the subculture. These findings have led Tulkin to call for psychologists to exhibit greater understanding and acceptance of cultural differences. Ogbu (1981) supports this view and believes that cultural differences occur, in large part, because of specific, systematic differences in the environments of the two cultures. As people try to adapt and become competent in different environments, behaviors arise that are sometimes called cultural differences. These behaviors, however, are simply demonstrations of competence in a different environment. School psychologists can use this information to great advantage in working with other cultures. Carlson, Scott, and Eklund (1980) have suggested strategies for such environmental analysis. One encouraging note is the finding by Huebner and Cummings (1985) that diagnostic decisions of school psychologists are likely to be influenced by multiple sources of data as opposed to being heavily influenced by cultural data.

UTILIZING THEORY AND RESEARCH IN EVERYDAY PRACTICE

Theory is often defined as a body of principles offered to explain phenomena. For school psychologist practitioners, theory functions as a guide that helps them organize their thinking about a given situation, plan the proper intervention, and assess the subsequent outcome. Practice without theory and supportive research qualifies for the adage that "a sailing ship without a destination will find any wind favorable."

In an article entitled "Getting Out of Our Conceptual Ruts," Wicker (1985) states that "the human tendency to think recurring thoughts limits our theories and research" (p. 1094). As a way to stimulate new insights, Wicker proposes four sets of strategies for theorists and researchers that are very applicable to the applied side of the school psychologist role:

1. *Play with ideas* through a process of selecting and applying metaphors [i.e., discovering new patterns and relationships by designating a problem as an object from another domain], representing ideas graphically, changing the scale, and attending to process [i.e., imagining stable entities as dynamic processes].
2. *Consider contexts,* . . . place specific problems in a larger domain, make comparisons outside the problem domain, examine processes

in the settings in which they naturally occur, consider the practical implications of research, and probe library resources. [Conoley (1986) and Conoley and Gutkin (1986) presented such a reconsideration of context when they reconceptualized the practice of school psychology as indirect service delivery.]

3. *Probe and tinker with assumptions* through such techniques as exposing hidden assumptions, making the opposite assumption, and simultaneously trusting and doubting the same assumption. [Methods to examine alternative assumptions were used by Epps, Ysseldyke, and Algozzine (1985) to study definitions of learning disabilities and by Keith and others (1987) to study adaptive behavior and intelligence.]
4. *Clarify and systematize conceptual frameworks* . . . and . . . scrutinize the meanings of key concepts, specify relationships among concepts, and write a concept paper [i.e., a working paper that explores the core question, its key concepts, alternative methods to answer it, and gaps and inconsistencies]. (1985, p. 1094)

What theories to select is a professional decision. We know that the explanation of human behavior has favored personal determinants and environmental determinants. Advocates of personal determinism, such as existentialists and other humanistically oriented professionals, believe that human behavior is shaped by the free will, drives, instincts, motivation, personality traits, and other dispositions internal to the individual. Theorists who advocate environmental determinism, such as behaviorists, believe that situational influences in the environment control behavior. And, of course, interactionists believe that behavior is caused by both environment and personal factors operating in a unidirectional fashion.

Social learning theorists and developmental theorists, however, believe that behavior is determined by a combination of internal factors, environmental factors, and behavior which are continuously interlocking determinants of each other in a reciprocally determining way. In our view, social learning theory begins to approach the dynamic complexity with which internal, environmental, and social forces directly and indirectly influence each other and the nature of behavior. Modern developmental theory also offers a very good conceptual grounding for the understanding of human behavior (Oyama 1985; Scott 1987; Thelen in press). Factors within the individual and factors within the environment are now seen as components in a single developing system. Some interesting new alternatives have been suggested to the older and inaccurate heredity/environment model.

Which belief system is best, most universal, or most effective is a professional choice, but the choice should be made on the basis of good data and only after all options have been considered. While we work from a sound theoretical base, we are also challenged to consider new

data and examine our theoretical "ruts." By effectively conceptualizing client problems and solutions, we school psychologist practitioners can demonstrate, model, and teach other adults in the system how we can benefit our clients if we work from a theory and research base of operation.

PRACTICING PRIMARY PREVENTION AND CHANGE AGENTRY

This proposal is based on the statement "if it ain't broke, fix it." It is a proposal to engage in more development and prevention activity in order to limit the excessive need for remediation and maintenance. Primary prevention is a role that school psychologists have proposed for years (Cutts 1955). Now is the time to define and activate this role. We are all well aware that as long as our day-to-day work is satisfying ourselves and our supervisors, and at the same time we are helping to solve our clients' immediate problems, the factors that represent the causation of these problems can remain disguised and undefined indefinitely. Thus, we must fix the prevention side of the equation while at the same time finding interventions to care for clients in immediate need.

Primary prevention is a difficult and demanding role which has caused many of us to question our competence to function in such a role. Gesten and Jason (1987) cite the volumes of work that have come out of the Annual Vermont Conference on Primary Prevention of Psychopathology with a statement by Bower, who described primary prevention as "'unstructured spaciousness [in which] one searches eagerly for places to grab or stand . . .'" (p. 429). They also quote a statement by Kessler and Albee, who compare primary prevention to the Okefenokee Swamp, "'attractive from a distance and especially from the air; it lures the unwary into quagmires, into uncharted and impenetrable byways'" (p. 429). The message is quite clear: primary prevention is neither for the weak nor for the unprepared. Nevertheless, school psychologists who want to be on the "cutting edges" must consider primary prevention as one component of a fully developed program for helping.

One of the best examples of primary prevention in a century came from the field of school psychology. The Early Training Project at Peabody Institute (Gray, Ramsey & Klaus 1982) grew out of a school psychology seminar at which students and faculty working together tried to generate a strategy that would break the cycle of poverty and racial suppression in which many children were caught in the early 1960s. This preschool project was one of the main forerunners of Head Start and other programs intended to prevent school failure before it began. These school psychologists had primary prevention as their major model.

The concept of primary prevention is gaining ground, but considerable conceptual and organizational work is needed to institutionalize it. For example, even though all professionals understand that most psychological disorders are associated with multiple causes, some continue to make "turf control" a high priority. Specialized expertise can easily lend itself to inattentiveness to related issues because they are outside one's technical purview. Consequently, role confusion and emphasis on remediation goals continue in our schools while no one is attending to the cause for the increase in such pathologies as stress and depression that is being observed in our schools today.

Currently much of the literature describing prevention interventions is person-centered (Cowen, cited in Gesten & Jason 1987). Caplan (1970), in his benchmark publication *The Theory and Practice of Mental Health Consultation*, accepted person-centered helping as important but stressed program, administrative, and system helping as essential interventions for moving toward problem prevention. Following Caplan's proposal, school psychologists could develop evening programs for parents focused on developmental problems occurring among elementary-age students. Childhood depression, substance usage, and stress are examples of topics that might be considered for such prevention programs. School psychologists could also offer adult programs built around such themes as competence building, empowerment, and mutual help.

Engaging in prevention means expanding the role of helping for the school psychologist. It means working with the adults in the system to centralize a given change effort. It is important to note, however, that when one professional role member who is not in a management position gains too much power in the system, management begins to resist the change process (Pettigrew, cited in Beer & Walton 1987). The school psychologist can create and facilitate the change process, but the person(s) responsible for all program consequences, such as the building principal or superintendent, should represent a strong support base for the change. Top management must be central to the change and must help in creating the environment in which members become committed to prevention. School psychologists should seek out the managers who help develop a vision of how things could be and should be; who are flexible, willing to listen to the total system, and willing to make mistakes and recycle when needed; and, most of all, who listen, believe in good data, and seize opportunities for improvement. These are the managers to engage in creative thinking for implementing prevention programs.

The timeliness of this topic is evidenced by the fact that a recent issue of *School Psychology Review* was devoted to this topic (Zins & Forman 1988). Zins, Conyne, and Ponti (1988) discussed primary prevention as a way to expand the impact of psychological services in the schools. Elias

and Branden (1988) suggested strategies for primary prevention of behavioral and emotional problems in school-aged populations.

IMPLEMENTING A SYSTEMS MODEL: BEING SYSTEMS DRIVEN

What is a system? Basically a system is "an entity made up of interconnected parts, with recognizable relationships that are systematically arranged to serve a perceived purpose. The most fundamental property of a system is the interdependence of its parts" (Kurpius 1985, p. 369). It is the concept of interdependence and connectedness that reinforces the importance of systems thinking for school psychologists to model and disseminate to those whom they serve. For years we have talked about the relevance of interdisciplinary training and practice with collaboration as the ultimate intervening variable. In practice, however, we continue to struggle for the development of a truly collaborative and interdependent work climate. In some cases independence, dependence, and counterdependence are the more commonly observed behaviors.

Why is it important for school psychologists to utilize systems thinking? Humans are constantly organizing and reorganizing themselves as a way to improve things. We live in systemic organizations that create many interdependencies. Changes to the systems (e.g., projects) tend to assemble, uproot, and reassign people who are requested to function as a working whole (Havelock & Huberman 1978). Consequently, systems thinking enhances the probability that humans will succeed with greater effectiveness, efficiency, and satisfaction.

Havelock and Huberman (1978) offer an operational definition of the stages of completeness of a social system. They believe that the operation of a given system can range widely, as widely as from *chaos* to *completeness*. The following stages represent this continuum:

Stage 1. *Relation*	The most rudimentary criterion of whether or not a system exists. People are only remotely aware of one another. [*Example:* Teachers enter the building each day, proceed to their assigned rooms, and remain there for the major portion of the day.]
Stage 2. *Connection*	When units or persons with a given relation begin to make more contact when the opportunity for connection is present. [*Example:* Teachers in a department or program are encouraged to help each other by sharing ideas.]
Stage 3. *Cohesion*	When related and connected persons

	or groups begin to develop a common identity, common attributes, a common boundary, and a sharper awareness that they are parts of one common enterprise, a system can be said to have moved beyond connection toward cohesion. [*Example:* Teachers desire to belong to a group and the larger unit.]
Stage 4. *Dynamic Connection*	When the parts of a system begin to be interdependent, when they begin to influence each other and to perform tasks jointly, we can begin to speak of dynamic connection, as distinct from mere connection. [*Example:* Members model openness and are receptive to the ideas of others.]
Stage 5. *Dynamic Cohesion*	An even higher level of "system" is established when successful cycles of problem solving become routinized and institutionalized and when members or subgroups of which the system is composed see themselves as interrelated and complementary parts of a living whole in which they participate and from which they benefit. [*Example:* Perhaps a crisis is needed for a school to reach stage five. When educators are threatened by pay cuts, larger class size, or other forms of personal threat, they may mobilize themselves in a dynamically cohesive way.] (pp. 29–31)

While the dynamic cohesion state would be ideal, and perhaps this level of functioning is achieved in some settings, reaching the cohesion stage remains a challenge for many. Thus, cohesion should be the minimum goal set by school psychologists for their client system.

Another definition of system has been developed by Tom Lane (pers. com. 1988), a long-time corporate internal consultant and more recently an external consultant to a large corporation. He has conceptualized the need for systems thinking and behavior with the proposition that we are currently existing in a *material*-based society, but we are struggling, perhaps still at an unconscious level, to become a *system*-oriented society. Examples of Lane's proposal suggest that on the material side of our work we experience possessiveness as our means of existence, while on the systems side we experience participation as the leading influential

force. Following are examples of the differences between material possessions and systems participation:

Material Side	Systems Side
1. Energy is used to acquire things.	1. Energy is used to contribute.
2. Things dominate.	2. Interactions dominate.
3. Thinking is often for or against.	3. Thinking is holistic.
4. The essence is entropy.	4. The essence is harmony.
5. Persons are self-centered.	5. Persons are part of a whole.
6. Relationships are role dominant.	6. Relationships are nurturing.

The very nature of the role of the school psychologist requires interdisciplinary planning. Consequently, introducing social systems thinking seems to be an essential factor in improving direct service to clients and indirect service to the client system. To do so will require adequate preparation in systems concepts as well as a deep commitment to their implementation.

Plas (1986) has applied a systems model to a number of aspects of the practice of school psychology. In his introduction to her book, Bardon says, "Plas synthesizes a literature that is not usually part of the background and education of practitioner psychologists, making it applicable to a particular setting: the public school." Paget (1987) and Carlson (1987) suggest useful applications of systems theory to family interventions for school psychologists.

PRACTICING PARADIGM SHIFT THINKING

What is a paradigm, and what is it that we desire to shift or change? A paradigm is many things. First, it is a belief about something that is determined to make an improvement. Next, it is a scaffold or superstructure that offers an opportunity to define and refine the phenomena. It is a way to explain what has occurred and should be continued. In education a paradigm shift is usually caused by a crisis. Sheldon (cited in Schaef & Fassel 1988) offers an explanation for this finding as he summarizes the work of Thomas Kuhn:

> "When scientists find that old theories don't altogether work anymore, they begin to consider other alternatives, but they do not yet give up on the old theories. In fact, they will discard a scientific theory only if an alternative theory is available to take its place. So the decision to reject one paradigm simultaneously marks the decision to accept another.

> Crises help facilitate a fundamental paradigm shift. Simply by occurring, they call into disrepute the stereotypes which aren't adequate to deal with them and forcefully point out the need for a different model." (p. 34)

A paradigm change model, as described by Kuhn, proposes an eruption phenomenon that is crisis driven. Change is forced. Rules and structure follow the change as a way to stabilize that change. Early racial discrimination in the schools followed this pattern. The publication of *A Nation at Risk* (National Commission on Excellence in Education 1983) and the school reform measures that have been in progress since are other examples. As policy and rules changed, fewer crisis-oriented changes followed. The second model of change, the scientific model, follows a normal developmental process. This approach tends to follow evolutionary processes of incremental changes. Changes are guided by reasonably established boundaries and rules, often embedded in tradition, redundant in practice, and slow to change.

Kuhn's early writing has had quite an impact. And his concept of the crisis-oriented paradigm shift remains a meaningful concept. The dilemma, however, is this: are we as school psychologists, counseling psychologists, or any other helping professionals limited to the scientific model of incremental change and the paradigm shift model of crisis change? Our sense is that we need the force of the crisis model and the security of the incremental model, but we are in need of a third view. The third proposal is to view situations with more *openness*. If we take a "double look" at basic beliefs, we engage in the double loop learning described earlier. This allows us the opportunity to see and better understand what is already present in the situation but not yet known to us because of our restricted assumptions, beliefs, and limited world view held in a form of near-permanency.

Do paradigm shifts occur in the person, the behavior, or the environment? Of course, they occur in the person first. In a book entitled *The Addictive Organization*, Schaef and Fassel (1988) cite the work of several writers who have struggled with the paradigm shift idea. First, they mention the work of Ferguson and her book *The Aquarian Conspiracy*. Ferguson does not support the notion that the paradigm shift was the invention of scientists. She believes that people in general are motivated toward forming a new base that is holistic, healthy, cooperative, ecological, and spiritually based. And it is not an external force imposed outside of individuals, as in science; rather, it is an internal force that humans experience through a variety of means, such as self-exploration, personal crisis, and normal development. Schaef and Fassel also cite an article by Hampden-Turner entitled "Is There a New Paradigm? A Tale of Two Concepts." Hampden-Turner points out that the newly emerg-

ing paradigm can become a barrier if we treat it as "'an object of worship.'" He cautions us to consider this:

> "The values of paradigm II are not a grab bag, they cannot be seized or appropriated, they come by indirection, by going the full circle, development by way of concern for others, conviction earned by doubt, emotional security through vulnerability. It is quite a different world than the pop-psych supermarket and will require of us nothing less than a fundamental change." (p. 37)

It is essential for practitioners to model the concept of paradigm shift thinking. To do this, they must create a third dimension of change beyond the scientific model and the crisis model. There are no sure rational and objective ways, just as there are few "quick fixes." We must feel confident enough to move away from the security of the safe answers to a process of the unknown. Sometimes we must "leap before we look," as is proposed by advocates of goal-free evaluation.

Why must we occasionally "leap before we look"? Because sometimes we do not have the behavior to observe, as in the scientific model, nor will we want to create a crisis. In this situation we must rely on *participation* and interdependence because no known theory, research, or structure is available to move us to the next level. At this point we must give up our old control mechanisms, as well as the strongly held paradigm of science and objectivity. We must rely totally on self, others, and the world view they bring to the present situation. It is perhaps the true meaning of participation, collaboration, and interdependence.

Two examples of paradigm shift thinking for school psychologists are the assuming of new roles and the focusing on new problems. Pfeiffer and Dean (1988) edited and contributed to a miniseries in *School Psychology Review* on school psychologists in nontraditional settings. New problems that have entered the practice of school psychology in the last decade are computers (Brown 1984; McCullough & Wenck 1984; Walker & Myrick 1985) and psychological maltreatment of the child (Brassard & Gelardo 1987; Hart 1987).

CONCLUSION

In the foregoing section, we stressed the importance of paradigm shift thinking for the future of school psychology. In essence, we see all the concepts in this chapter as inextricably linked to paradigm shift principles. That is, the activities of the future are described in terms of challenging current assumptions and visioning the future in new ways.

For example, school psychologists involved in outreach and advocacy naturally broaden their vision, those who examine and reexamine currently held theories evolve new solutions, those involved in primary pre-

vention supplement traditional remediation, and those who encourage systems thinking move beyond excessive attention to individual functions.

In other words, as a natural consequence of these activities, school psychologists will engage in their own versions of paradigm shift thinking, with openness and a continuous questioning of assumptions and current ways of operating. In these roles of the future we can all challenge "business as usual," conceptualizing problems and intervening in new and effective ways.

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2. INSTRUCTIONAL CONSULTATION: A MODEL FOR PROVIDING CLASSROOM-BASED SUPPORT SERVICES

by Sylvia Rosenfield

Consideration of alternative service delivery models to students experiencing learning and behavior problems in the classroom has been advocated. One such alternative approach, instructional consultation, involves school psychologists in collaborative consultation with classroom teachers, using the emerging knowledge domains of classroom-based assessment and effective instruction. In this form of service delivery the focus is on enabling the student to learn within the classroom context. A brief description of the stages of instructional consultation is presented to clarify the process.

Efforts to meet the individual needs of different student populations have led to the creation of a number of separate categorical programs, such as special education, Chapter 1, bilingual education, and other remedial programs at the state and local levels. Support staff on child study teams, such as school psychologists, social workers, guidance counselors, resource room teachers, and speech and language therapists, spend a great deal of their professional time in assessment and team meetings certifying students for these programs. Often the assessment process, which may have some validity for diagnostic labeling, has little utility for designing interventions for the student (Rosenfield & Reynolds in press).

Moreover, there is increasing awareness that current policies have created a fragmented system, in which many students who receive help are pulled out for special services for a part of the day. This arrangement has not been demonstrated to be effective in terms of learning outcomes for at-risk and/or handicapped children (Allington 1987; Allington & Johnston 1986; Gartner & Lipsky 1987; Reynolds, Wang & Walberg 1987). Several problems have been identified, including a lack of integration of curriculum and objectives between regular and categorical programs, which makes it increasingly difficult for the labeled student to catch up with peers, and a lack of responsibility on the part of anyone for the total program by which students receive services from both general and categorical programs.

In addition, some students who are experiencing problems but who

are not found to be eligible for services under the category structure do not receive any help. Many support services funded under restrictive category systems are not available to them. Their teachers have been left in many cases to struggle alone with the classroom problems presented by students who are difficult to teach and manage.

As a result of the growing body of literature documenting the problems with the current system, there has been a call for alternative organizational structures (Reynolds, Wang & Walberg 1987; Will 1986). The rationale for such a position is the assumption that further refinement of entitlement programs—such as special education, Chapter 1, and the other "narrowly framed programs . . . launched one by one, each program well-justified in its own time and way, but based on the assumption that it does not interact with others" (Reynolds, Wang & Walberg 1987, p. 392)—may not be the most useful direction for the future. Rather, support has developed for examining ways in which to restructure the mainstream itself that would allow general education to reclaim responsibility for a wider diversity of students (Skrtic 1987).

One critical question now is how to change the organizational structure of support services to assist schools in accomplishing that goal. A core issue is how staff members in schools will work together (McLaughlin & Yee 1988). Most educators, whether in regular or categorical programs, are expected to work alone; there is little expectation or time built into the day for collaboration or joint planning. However, schools that more effectively provide for the education of all their students in heterogeneous environments generally reduce organizational barriers and redefine professional roles. Thus, opportunities are created for collaboration and problem solving rather than problem hiding; a common conceptual framework, knowledge base, and language among school staff are developed. This collaborative, cooperative frame of reference underlies the culture of schools that are better able to provide education for all their students. An important question for school psychologists then becomes how to develop a role in such a framework.

INSTRUCTIONAL CONSULTATION

There has been increasing support for consultation services from school psychology (Curtis & Meyers 1988) and both regular and special education (West & Cannon 1988). Different models of consultation have been described for school practice (West & Idol 1987). One model which speaks to enabling teachers to cope with diverse student needs in the classroom is instructional consultation (Rosenfield 1987). Instructional consultation joins skill in the process of collaborative consultation with expertise in human development, instruction, and classroom management, knowledge domains that have been enriched by social science the-

ory and research over the past twenty-five years. While school psychologists might have little expertise in the content areas that teachers present to students and in the specific curricular materials available, there is growing awareness that social science research has contributed to the domain of pedagogical content knowledge—i.e., knowledge of how to teach particular content areas, general pedagogy, knowledge of learners, and classroom management—and that integrating the various types of strategies and knowledge domains is a complex process for the teacher (Shulman 1986). A core belief of the advocates of instructional consultation is that school psychologists can contribute to bridging the gap that exists between these domains of knowledge and the classroom setting.

Applying this knowledge to the classroom begins with the requirement that school psychologists examine their basic assumptions about students with learning difficulties and about the process of instruction in schools. Over the past two decades educators have gone from believing that schooling does not make much of a difference (Jencks et al. 1972) to adopting a perspective in which there is substantial agreement that teacher behavior does make a crucial difference to student achievement. While learning outcomes are known to be the result of a large number of variables, the quality of both instruction and classroom management is a critical variable (Bloom 1976; Rubin 1982). Further, its impact seems to be most crucial during the early grades (Chall 1983). However, the special education model has been largely a student deficit model. An alternative hypothesis is that the instructional program in the classroom is the cause of the learner's failure.

This perspective should not be considered revolutionary. Within the context of federal legislation for the handicapped, for example, it is assumed that a student is considered learning disabled only if, after receiving adequate instruction, that pupil fails to learn. But without a strong base in instructional psychology, the school psychologist and other members of the multidisciplinary team are at a disadvantage in the assessment process when they attempt to determine if that criterion has been met. There is a research base to document the fact that current instructional programs might not always meet the criteria for effective instruction (Bennett et al. 1984). For example, Steely and Engelmann (1979) analyzed the instructional programs for teaching reading comprehension skills provided by four of the most widely used basal reading programs—those of Holt, Scott Foresman, Ginn, and Houghton Mifflin—at the fourth to sixth grade levels, as well as the actual use of these programs by teachers in classrooms. They found serious defects in both the programs and their use by teachers.

Thus, while the current Zeitgeist in special education has been to search for the etiology of learning problems within the defective child, the focus could be shifted to the match between the instructional pro-

gram and the learner's needs. Further, because school psychologists are located within the school, they are in a unique position to collaborate with the classroom teacher in identifying the mismatch that is interfering with the student's capacity to benefit from the learning environment.

More specifically, the instructional consultant sees the learner as part of an instructional system that includes three sets of variables: the task, or what is to be learned; the learner; and the treatment, which includes both instructional and management strategies. In the psychoeducational model currently in wide use, when students are referred for academic problems, the assumptions are that the child has a problem, that the instruction has been adequate, and that the task is learning to read, do mathematics problems, and/or spell. The instructional consultant, on the other hand, begins with a different assumption: that an interaction exists, usually that of an instructional mismatch, among a student (often vulnerable on some dimension), instruction that has been ineffective, and a conception of the task that needs to be clarified. Further, through the process of collaborative consultation the mismatch can be identified and an instructionally sound interaction facilitated. Often this process requires assessment techniques created for resolving classroom-based instructional problems. Methods of assessment devised for the purpose of classification or placement cannot be utilized because they have not demonstrated validity for that purpose (Salvia & Ysseldyke 1981).

In sum, the focus of the consultation process is not on the referred students in isolation from the instructional system. When the focus is on students, they are viewed as learners (potential learners rather than disabled ones), and the assessment is concerned with alterable variables directly related to the learning situation rather than global constructs, such as intelligence or perceptual motor skills. Moreover, there is a differentiation between the task that needs to be learned and the treatment, the latter including both instructional and classroom management strategies. We need to know both what the task is and how the task is being taught, a distinction frequently ignored in psychoeducational evaluations. For example, recommendations in psychoeducational reports are often focused on changing the task—e.g., teaching sight words instead of phonics—rather than on clarifying the nature of the task and determining how to teach it to a particular child using sound instructional principles.

THE PROCESS OF INSTRUCTIONAL CONSULTATION

Within the consultation literature there is considerable consensus that there are stages in the consultation process, although the labels for these stages vary (West & Idol 1987). Instructional consultation utilizes the following stages: entry and contracting, problem identification and analysis,

intervention or implementation, and termination. Moreover, the interpersonal skills of good consultants, whether behavioral, mental health, or instructional, are highly similar (West & Idol 1987). In addition, instructional consultation emphasizes data gathering and evaluation throughout the stages. While instructional consultation most closely resembles behavioral consultation, it focuses on instructional issues and draws from the knowledge base of instructional psychology and classroom management, which includes but is not limited to behavioral principles. Following is an expanded view of the process of instructional consultation using the stage framework.

Entry and Contracting

In order for a collaborative relationship to be established between the consultant and the teacher around instructional issues or problems, the teacher has to understand and agree to accept the role of consultee. The teacher needs to prepare for the process of consultation, to have an overview of what the purpose of the consultation is and how it might differ from previous experiences with school psychologists or from existing expectations about the relationship between teacher and psychologist. Teachers will usually begin by assuming that if they are referring a student, the psychologist will help them figure out what is wrong with that student. Since the defective student model of etiology for learning problems is often comforting for teachers because it relieves them of responsibility for solving the problem, the shift to collaboration is not always easy. Even teachers interested in classroom-based assessment and intervention might have had little experience working with a school psychologist in a collaborative relationship to solve an instructional problem. The school psychologist also needs to be aware of the myriad of agendas teachers have in relation to the area of instruction: the pressure on teachers to cover all the content in the curriculum, whether or not students are learning; teacher focus on the whole class, which is diffused and disrupted when teachers are asked to focus intensively on individuals (see Abidin 1975 for an elaboration of this perspective); and the importance to teachers, as to all professionals, of being thought of as competent in their work.

A clear contract needs to be established about what will occur in the consultation process. The consultant can set the tone during an initial interview by giving an overview of what is to be accomplished and why the process will start with problem identification. The teacher is assisted in understanding that the solution will probably not be reached quickly, that the psychologist will usually not be testing the student, and that the teacher and the psychologist will be working together to understand and develop intervention strategies.

Entry involves the larger issue of institutionalizing the consultation model as an essential part of the psychologist's role in the school and as a valued support service. Even though the school psychologist might be continuing in the same school, he or she needs to be reintroduced to the staff in terms of the new role. Sanction from the administration to perform this new role is also critical; this can be done by simply having school psychologists reinterpret their role (Rosenfield & Rubinson 1985) or by including this reinterpretation within larger changes in the type of support services to be delivered (Zins et al. 1988).

Problem Identification and Analysis

Problem identification and analysis usually begin with a referral. A brief referral form that describes the problem and includes a place for the teacher to list alternative days and times for meeting with the consultant facilitates the process. At this initial interview, after the nature of the working relationship is clarified and the teacher understands the purpose of the interview, the school psychologist can focus on obtaining the information necessary to help identify the problem itself. Several authors have explored the importance of the language used during this initial interview. Tombari and Bergan (1978), for example, have described the effect of using specific behavioral cues, such as "Tell me about Johnny's behavior in your class," as opposed to more general ones, such as "Tell me about Johnny's problem," in terms of influencing the teacher's beliefs about the likelihood of solving the student's problems within the classroom. According to their research, teachers are more apt to express optimism about solving problems within the classroom setting if they are given the more specific type of verbal cue.

The use of good communication skills is fundamental to the success of the collaborative process. Avoiding constant questioning is essential because there is evidence that reliance on questions limits the expressiveness of the interviewee and can produce blocking, reduced input, and inhibited responses (Dillon 1979). Asking clarifying questions is especially important, particularly in relation to academic problems. In analyzing teacher-psychologist interviews about academic problems, the author has become aware of how confused the dialogue is, of how often teachers say things that are unclear or have multiple interpretations. Yet the psychologists interviewing the teachers do not ask for clarification and seem to assume they understand. Some report that they do not wish to show their ignorance about classroom instructional procedures. The use of clarifying statements and questions, such as "Could you give me an example of his inability to follow directions?" or "Tell me more about the phonics problems," needs to be encouraged, along with requests to see the actual materials with which the student is struggling.

Before the end of the interview, the psychologist and teacher might have begun to see more clearly the problem that is the basis for the teacher's referral and/or to have clarified what information needs to be gathered to determine what the discrepancy is between the desired performance for the pupil and the actual current level of functioning. However, the problem identification process must also include an examination of the specific nature of the instructional task. What are the particular objectives that the student is expected to master? What skills must the student have in order to meet those objectives? Does the student have the prerequisite skills? For example, teachers sometimes refer students who are unable to blend sounds into words when these students do not have the vowel sounds necessary for the blending process. The psychologist must also learn what strategies have already been used to modify the instruction and/or the instructional materials. Thus, the analysis and identification of the problem focus on the entire system in great detail, not just on the student's behavior in isolation.

Many of the answers to these questions can be obtained through the process of curriculum-based assessment (Gickling & Havertape 1982; Rosenfield 1987; Shapiro 1989). For example, the teacher might state that the student has a reading problem. First, it is necessary to determine what the student is expected to be able to do in the domain of reading in that classroom setting—i.e., within the scope and sequence of the reading program used there. Where is the student compared to where the teacher expects him or her to be? What instructional program has been used to move the student through the scope and sequence? While the classroom teacher should be able to provide this information, or know how to do the type of assessment that would generate this data, often it is necessary either to model the procedures for the teacher or to instruct the teacher in the process.

Sometimes the teacher cannot answer questions about where the referred student is in terms of entry-level skills—i.e., what the student has actually mastered. Moreover, assessment procedures using standardized tests to establish grade levels are not helpful here because there is little correspondence between one standardized test and another, or between standardized tests and basal reading series, or among basal reading series themselves (Jenkins & Pany 1978; there is a similar problem in arithmetic, according to the research of Shriner & Salvia 1988). Thus, it is critical to evaluate the student's entry level within the classroom curriculum itself. Once this is done, it is frequently found that the student is working at frustration level rather than instructional level—i.e., the student is confronted on a daily basis with material that is too hard, rather than with material that could be mastered by good instruction. For some cases this assessment provides the key to intervention—i.e., placing the student in materials at the appropriate level.

Another important feature of curriculum-based assessment is error analysis (Engelmann & Carnine 1982; Gickling & Havertape 1982; Rosenfield 1987). Through careful examination of the student's actual performance on the curriculum materials, it is often possible to find the type of error she or he is making. Usually, there is a logic to the error pattern that reflects either a consistent, but incorrect underlying error in strategy or a deficiency in the teaching program itself. Gickling and Havertape (1982) suggest a framework for analyzing students' mathematical errors. Russell and Ginsburg (1984) provide evidence that students who are having mathematical difficulties are not seriously deficient in their knowledge of basic mathematical concepts and procedures; neither do they show unusual bugs in their mathematical problem solving—i.e., the strategies they use for solving problems are not unlike those of their normal peers. However, they have considerable difficulty with rote mastery of mathematical facts. Determining the type of error the student makes in individual cases is a prerequisite to planning appropriate intervention and, therefore, an important assessment issue.

Intervention or Implementation

Consultation skills are critically important at this stage because the intervention in most cases will take place in the classroom itself and will be implemented under the guidance of the classroom teacher. The instructional consultant and the teacher might see the need for interventions that are different from the "normal" way of doing things and that must be integrated into the daily activities of the consultee. For example, finding that the student is working at frustration level requires that he or she be provided with material that is easier. Resistance often occurs at this point in implementing the intervention because the teacher feels caught between "getting through the curriculum material" and moving the student at a pace that more closely reflects instructional level. That slower is faster in the long run (Rosenfield & Rubinson 1985), that students make more progress when placed in material that is easier, is difficult for some teachers to accept in spite of the empirical support for this position. Even teachers who accept that perspective find it difficult to implement such a strategy in the face of school pacing charts.

A second reason for the importance of ongoing consultation is the factor of adaptation of interventions by practitioners. When information is transmitted, it must be integrated into the working knowledge of the teacher. Practitioners, including teachers, take new information and sort, sift, and interpret it; they examine its implications and sometimes transform it as they make it their own (Kennedy 1983). The consultant needs to assist the teacher in this process, to support her or him in understand-

ing and attempting new strategies, and to be sure that the strategies are implemented appropriately.

A full description of the educational strategies available for modifying instruction, instructional materials, and classroom management is beyond the scope here and has been presented elsewhere (Graden, Zins & Curtis 1988; Rosenfield 1987; Shapiro 1989). In general, it is possible to manipulate relatively few categories: the student's work setting, the curricular materials, the instructional procedure, and the arrangement of consequences based on the learner's performance (Haring & Gentry 1976). One useful and validated source for such manipulation is the technology of direct instruction, which provides a starting place for finding effective strategies. Direct instruction can be defined as

> high levels of student engagement within teacher-directed classrooms using sequenced, structured materials. . . . it refers to teaching activities focused on academic matters where goals are clear to students, time allocated for instruction is sufficient and continuous, content coverage is extensive, student performance is monitored, questions are at a low cognitive level and produce many correct responses, and feedback to students is immediate and academically oriented. (Rosenshine 1978, p. 46).

Other important teaching strategies have been demonstrated, including preventing overload by limiting the amount of new information to be learned, achieving mastery learning at each step of a skill development sequence, building skills to the automatic level, and using distributed practice to aid retention (Bryant & Kelly 1982). Engelmann and Carnine's (1982) theory of instruction for the teaching of concepts provides a number of strategies for intervention. The literature on classroom management—from Kounin's (1970) concepts of movement management, group alerting, "withitness," and learner accountability to Paine and others' (1983) procedures developed in the context of the Direct Instruction Model—needs to be further disseminated in the schools to prevent learning problems, improve the quality of learning that can occur in classrooms, and assist teachers with individual students who are having difficulty. Helping the teacher integrate these instructional strategies into the daily work of the classroom is the goal of the instructional consultant.

Termination

A decision to continue or terminate the consultation process is based on the monitoring of both the ongoing nature of the interpersonal relationship between consultant and consultee and the progress of the student. When a collaborative process cannot be established, and there is

no working relationship, a positive confrontation can enable the participants to decide about terminating the process. Ongoing data analysis is useful in determining at what point the problem is either fully resolved or being successfully managed by the teacher. In some cases the data might indicate that there is a need to move the problem beyond the confines of the classroom, and a referral to special education for additional services might be required. In all cases it is appropriate for the consultant to summarize the consultation in the form of a letter-report to the teacher; models for this have been provided elsewhere (Rosenfield 1987).

Evaluation

An important part of the instructional consultation process is ongoing assessment, a value shared with other behavioral consultation systems. Problem identification clearly involves the data gathering necessary to define the problem. In addition, all instructional strategies are formulated as hypotheses to be tested for effectiveness rather than as recommendations to be carried out by the teacher until the end of the year. The goal of the consultation is to move the student as efficiently and effectively as possible through the scope and sequence of the curriculum. When instructional consultation is in place, data need to be collected to monitor the system and the individual progress of students to determine whether academic and behavioral goals have been achieved (Rosenfield 1988).

CONCLUSION

The process of instructional consultation moves the assessment and intervention components closer together and in the direction of the education agenda. While the description here only touches the outline of the process, it suggests how consultation and instructional psychology can be brought together to further the goal of better education of students in the classroom environment. The use of instructional consultation depends on school psychologists' having training in both consultation and instruction. As school psychologists take on this role, they move more definitely in the direction of the core agenda of the school. Instructional consultation is thus an option that has promise for our future as valuable service providers within the schools.

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3. COGNITIVE-BEHAVIORAL SCHOOL PSYCHOLOGY: CURRENT ISSUES AND FUTURE DIRECTIONS

by Jan N. Hughes

Although behavioral psychology has enabled school psychologists to contribute to students' learning and behavioral adjustment both in and out of schools, these contributions have often been tangential to the central purpose of schools—teaching students skills and knowledge that will enhance their independence and personal competence. Additionally, reinforcement programs make demands on teachers that are incongruent with teachers' perceptions of their role. The major tenet of this chapter is that cognitive-behavioral approaches offer the school psychologist an expanded range of assessment and intervention methods that will broaden professional role functioning and enhance opportunities to improve students' learning and social-emotional development. A brief history of cognitive behavior modification is provided, followed by a discussion of its advantages and disadvantages. Also discussed are critical issues that must be attended to by practitioners and researchers in order for the promise of cognitive-behavioral psychology to become a reality.

THE COGNITIVE REVOLUTION

In 1960 Hebb, an experimental psychologist, heralded a paradigmatic shift in American psychology that has had profound implications for virtually every field in psychology, from basic research areas to clinical practice. This shift, referred to as the cognitive revolution (Dember 1974), challenged the stimulus-response (S–R) behavioristic paradigm that had dominated American psychology since the 1920s. As is true in any battle for supremacy between two opposing camps, the behaviorists and the "new look" psychologists (Dember 1974) each vociferously defended their brand of psychology and attacked the opposing view. The behaviorists claimed that the new interest in cognition and other internal states was a throwback to mentalism and the prescientific (i.e., prebehavior-

ism) era of psychology. The "new look" psychologists criticized the behaviorists as conceptually barren empiricists who denied the existence of phenomena that S–R psychology could not explain.

Although the resulting debate provided lively reading, it did little to advance the science of psychology. Meanwhile, experimental psychologists conducting research in motivation, perception, language learning, and memory continued to accumulate research findings that could not be explained within a strictly behavioral paradigm. In 1974 Dember, a noted experimental psychologist, announced, "Psychology has gone cognitive" (1974, p. 161). In support of this pronouncement, Dember reviewed the limitations of S–R theory while attempting to explain research findings in such basic experimental areas as memory, perception, and motivation. This cognitive interpretation of research in perception and motivation emphasized that individuals respond not to some *real* environment but to a *perceived* environment. Eschewing a Hullian view of the motivational properties of stimuli, Dember and other "new look" motivational theorists recognized that people are reinforced by the informational properties of stimuli rather than by their physical, drive-reducing properties.

At the same time a noted behavioral therapist, Michael Mahoney (1974), drew a distinction between two types of behaviorism: metaphysical behaviorism and methodological behaviorism. Metaphysical behaviorism, also referred to as radical behaviorism, is a theory of human behavior that denies the existence of mental phenomena. In his attempt to rid psychology of nonscientific methods, Watson (1924), the principal architect of metaphysical behaviorism, eliminated thoughts, images, and beliefs as proper subjects for scientific psychology. The result, according to Dember (1974), was that for fifty years American psychology deprived itself of its most interesting problems. Furthermore, S–R psychology proved inadequate to the task of understanding human behavior and thought. In contrast to metaphysical behaviorism, methodological behaviorism did not limit the content of psychological inquiry to observable phenomena. Rather, it required that psychological theories and constructs be subjected to scientific inquiry (Mahoney 1974).

Given behavior therapy's close ties with experimental psychology, it is not surprising that behavioral therapists such as Mahoney began to incorporate research findings from cognitive experimental psychology into their clinical models. The outgrowth of this inevitable marriage between behavior therapy and cognitive psychology is present-day cognitive behavior therapy (Wilson 1978). "Rather than being a retreat to mentalism, cognitive behavior therapy represents a triumph of methodological behaviorism, a view of behavior as influenced by multiple and interactive determinants, and an expanded range of strategies for changing behavior" (Hughes 1988, p. 2).

COGNITIVE BEHAVIOR THERAPY DEFINED

Today the terms *cognitive behavior modification* (CBM) and *cognitive behavior therapy* (CBT) identify a diverse assemblage of models and strategies that share three primary assumptions. First, cognitive mediating events affect behavior; thus, specifically focusing on a person's cognitions can be an effective strategy for changing behavior. Second, individuals are active participants in their own learning. Third, theoretical constructs and practice recommendations have been subjected to empirical inquiry to establish their validity. In sum, cognitive behaviorism is not a unified theory but a set of models and strategies loosely tied together by these three assumptions.

The terms *cognitive behavior modification*, *cognitive behavior therapy*, and *cognitive training* are often used interchangeably in the literature. Technically, these terms differ, and their more precise use will promote definitional clarity.

Cognitive Behavior Modification

Cognitive behavior modification is the most inclusive term. It encompasses both educational and clinical applications involving mediational theories of learning and behavior.

Cognitive Training

Cognitive training refers to instructional efforts assigned specifically to help learners improve their academic problem-solving ability by means of cognitive-mediational strategies. Research over the past fifteen years has demonstrated that students with learning problems do not spontaneously engage in mediational strategies. They either lack these memorial strategies or fail to apply them. An active research field has developed in cognitive training with mentally retarded and learning disabled students. The purpose of this training is to teach students how to monitor their use of memorial strategies and how to apply more effective memorial strategies.

Illustrative of this genre of research is work in reading instruction. In the past, reading was thought of as a largely mechanical skill that involved recognizing and producing the sounds of the letters correctly, combining those sounds into words, and linking those words into sentences, paragraphs, and so on until the passage is correctly deciphered. The reader's past experiences and knowledge, or the "in the head" components of reading, were considered irrelevant (Alexander & Hare in press). Thus, in the behavioral model, reading was broken down into discrete sequences of skills, and the cognitive processes of the reader were ignored.

This view assumes a direct relationship between words and meaning. Yet researchers in cognitive psychology have demonstrated that reading is not such an unambiguous, mechanical process; rather, it is a constructive, active process. Thus, attention has focused on the cognitive processes by which readers derive meaning from text. Implications of this view for reading instruction have been far-reaching and have resulted in efforts to activate students' prior knowledge relevant to the content of the text through advance questioning or dialoguing; to teach students to actively manipulate, elaborate, or transform what they read; and to help students develop self-monitoring skills and a repertoire of strategies to enhance comprehension and memory. School psychologists who approach reading from this cognitive framework are required to develop partnerships with educators in formulating and evaluating alternative instructional strategies for students referred for testing.

Cognitive Behavior Therapy

Cognitive behavior therapy, in contrast to cognitive training, refers to clinical applications of mediational models of behavior. Several persons have offered definitions of cognitive behavior therapy. Kendall and Hollon's (1979) definition emphasizes its roots in behaviorism: "It is a purposeful attempt to preserve the demonstrated efficiencies of behavior modification within a less doctrinaire context and to incorporate the cognitive activities of the client in the efforts to produce therapeutic change" (p. 1).

Cognitive behavioral therapy has been successfully applied to the treatment of a variety of school behavioral problems, including aggression, depression, test anxiety, fearfulness, social withdrawal, hyperactivity, and impulsivity (see Hughes 1988 for a review). Its components include training in problem solving and self-control, cognitive restructuring along the lines of rational-emotive therapy, relaxation training, stress innoculation training, modeling, goal setting, and attribution retraining.

THE ADVANTAGES OF COGNITIVE BEHAVIOR MODIFICATION

I do not wish to imply that behavioral school psychology is no longer beneficial. Indeed, cognitive-behavioral approaches are often most successful when combined with operant procedures (i.e., reinforcement therapy). The cognitive-behavioral school psychologist is able to retain the demonstrated benefits of behavioral approaches while minimizing the limitations of a strictly behavioral approach. These limitations include (1) the failure of behavioral strategies to produce durable and gen-

eralizable behavioral changes, (2) the demands placed on teachers by reinforcement strategies, (3) the occurrence of behavioral changes with no accompanying changes in academic responding, and (4) the negative effects of externally controlled contingency programs on students' sense of personal causality.

The search for alternatives to reinforcement programs for improving task performance of hyperactive students was further spurred by research demonstrating that external reinforcement disrupts the performance of these students. Some students demonstrate an increase in impulsivity and a decrease in their attention to academic tasks under conditions of external reinforcement (Douglas 1975; Douglas & Parry 1983; Firestone & Douglas 1975; Parry & Douglas 1983). Although these deleterious effects can be minimized through careful attention to the obtrusiveness and timing of the reinforcers, these studies demonstrate the need to (1) consider idiosyncratic responses to reinforcers and (2) carefully monitor the effects of the program on students' cognitive style and accuracy as well as on overt motor behaviors.

A final limitation of behavior modification is its tendency to treat topographically similar overt behaviors in the same way. The maxim "behavior is behavior" may lead to ineffective interventions that do not address the different cognitive mediators of behavior. As McFall (1982) and Hughes and Hall (1987) posit, two individuals might exhibit the same overt behavior, but the causes of that behavior might differ, and this difference requires different interventions. Consider two boys who behave aggressively on the playground. One boy's aggressive behavior results from his tendency to attribute hostile intentions to peers' behaviors toward him. This boy is responding to his distorted perception of a hostile environment. A successful intervention program will need to help him interpret others' behaviors more accurately. The second boy's aggressive behavior results from his belief that aggression "pays off." A successful intervention will need to change his outcome expectancies, possibly through teaching problem solving, consequential thinking and evaluation, and contingency management. Coie and Dodge (1986) refer to these two types of aggressive children as reactive aggressive and instrumentally aggressive.

PITFALLS AND PROMISES OF COGNITIVE-BEHAVIORAL SCHOOL PSYCHOLOGY

Cognitive-behavioral approaches represent neither a panacea for treating students' behavioral, learning, and emotional problems nor a completely novel therapeutic and instructional approach. Rather, these approaches represent an expanded behavioral paradigm that shows

considerable promise for helping students. Whether CBM achieves its promise will depend largely on whether its proponents avoid certain pitfalls.

One pitfall is an uncritical acceptance of any new technology, an acceptance based on the belief that change is progress and new is better. Traditional behavioral approaches in schools have demonstrated their utility across a wide range of problems and are still the treatment of choice for many problems. Often the greatest benefit of the newer cognitive-behavioral approaches will result from efforts that combine them with behavioral approaches. Such combined approaches capitalize on the initial improvement obtained with behavior programs while altering a person's sense of competence (self-efficacy), which promotes greater durability of treatment gains (Collins, Rothblum & Wilson 1986).

A good example of research combining operant and cognitive-behavioral principles is that conducted by Bierman and her colleagues (Bierman, Miller & Stabb 1987). They found that when a treatment program for aggressive/rejected boys combined response cost for aggressive behavior with social skills training based on social learning theory, more behavioral improvement resulted than with either response cost or social skills training alone. Furthermore, the treatments produced different results. Social skills training alone resulted in an increase in prosocial behavior but no decrease in negative behavior. Response cost alone resulted in a decrease in negative behavior but no increase in prosocial behavior. The combined program produced immediate and sustained improvement in positive and negative behaviors and in the amount of positive reaction the boys received from their peers.

Although there is some evidence of greater generalization and durability of behavioral changes resulting from CBM, it is far from conclusive. Just as behaviorists realized that generalization must be programmed into change efforts, cognitive behaviorists are investigating factors that enhance generalization across behaviors, settings, and tasks (Wong 1985). The claim that CBM results in greater generalization is overly broad and empirically unjustified.

One reason for the scarcity of comparative data is the fact that few researchers have directly compared CBM with reinforcement programs. O'Connor (1972) found that three and six months after intervention, withdrawn students who viewed a modeling film depicting a student engaged in increasing amounts of social interaction increased their rates of social interaction more than did students who were reinforced for social interaction. Kendall and Braswell (1982) compared a CBT program for impulsive and hyperactive students with a behavioral treatment. They found that both treatments resulted in improvements on outcome measures, and these improvements were maintained one year after the treatment. Because of the somewhat greater improvement in the CBT group,

they concluded that the cognitive component made an additive contribution to the CBT program.

A second pitfall of CBM in schools is the cost effectiveness of CBM interventions. Many CBM interventions involve intensive and expensive student training. Their superiority over behavioral approaches, when demonstrated, must be weighed against their greater cost in terms of time, resources, effort, and efficiency (Wong 1985). The need to consider cost efficiency is related to the need to specify the "active" ingredients in multicomponent CBM interventions. Eliminating training components that do not significantly contribute to treatment effectiveness will result in more efficient programs that, in turn, will increase the probability that schools will allocate the necessary resources for the program.

A third pitfall is the failure of practitioners to evaluate the developmental appropriateness for students of interventions that are based on treatment models formulated for and tested on adults. Students' linguistic abilities, logical and abstract thinking skills, knowledge structures, and motivations differ in ways that require either different models and treatments or, at the least, modifications in intervention procedures. For example, rational-emotive therapy (RET) (Ellis 1962) is based on the view that an individual's cognitions (i.e., beliefs and thoughts) are a causal factor in emotional reactions, such as depression or anxiety. Certain types of irrational thinking are postulated to lead to behavioral and emotional disorders. Although there is some supportive evidence for this view with regard to adults (Ellis 1977), the evidence that maladaptive emotional and behavioral reactions in students are the result of similar thinking patterns is much less convincing. Furthermore, verbal disputation, the primary treatment approach in RET, requires levels of verbal, logical thinking, and abstract reasoning skills that are not commonly found in students under the age of fourteen.

Research by Stark, Best, and Sellstrom (in press) on a school-based model for the treatment of depression in students illustrates the sensitivity to differences between students and adults that is required to modify adult-derived theories and treatment models for use with students. The authors review research findings that support the view that depressed students share many of the characteristics found in depressed adults. For example, depressed students appear to have the same negative perceptual biases, attributional biases, and self-critical thinking patterns as depressed adults. Given these similarities in the symptoms of depression in adults and students, Stark and his colleagues have adapted adult-derived treatment approaches to the social-developmental level of students between the ages of nine and fourteen. Additionally, their school-based treatment program is sensitive to students' natural environment (i.e., the school), providing a treatment program that attempts to alter both the student's environment and his or her coping strategies.

Fourth, CBM practitioners need to determine those student characteristics that interact with treatments to produce differential results. In addition to obvious student characteristics, such as age, sex, cognitive level, and ethnicity, researchers and practitioners need to consider how subtle student variables, such as attributional style, interest in peer interaction, perceptual biases, and expectations for treatment, might interact with treatments. To illustrate, Bugental, Whalen, and Henker (1977) found that students' locus of control interacted with two types of treatments to produce differential results. Students who attributed events to internal factors, as opposed to external factors, benefited more from a self-instructional intervention for impulsivity and hyperactivity than from a social reinforcement program. Students with an external locus of control, however, benefited more from the social reinforcement program.

A final issue in cognitive behavior therapy is the appropriate focus of the intervention. Rather than focusing exclusively on student variables (i.e., behaviors, cognitions, feelings), practitioners need to focus on student, setting, and agent variables (Conoley in press). The importance of this ecological perspective is bolstered by the work of Bierman and Furman (1984). These investigators found that unpopular students who received social skills training improved on measures of social performance in the classroom. However, they did not experience an increase in peer acceptance. Only when social skills training was combined with opportunities for the students to engage in cooperative social interactions with classmates did treated students gain in peer acceptance.

FUTURE DIRECTIONS IN COGNITIVE-BEHAVIORAL PSYCHOLOGY IN THE SCHOOLS

A consistent finding from every survey on the role of the school psychologist is that school psychologists want to broaden their professional role and to become a more integral part of the process of schooling (Hughes 1979; Meacham & Peckham 1978). Among the reasons suggested for the discrepancy between actual and desired role functioning is a mismatch among the terminology, goals, and techniques of educators and mental health specialists. Reynolds and Birch (1982) describe some of these differences. Educators are concerned with development, competency, and achievement as positive criteria, whereas mental health specialists are concerned with prevention, cure, and amelioration as negative criteria. Reynolds and Birch conclude that educators are "concerned with teaching and learning, not recovery from defect or the simple prevention of problems. . . . Thus, to be educationally relevant and to engage the teacher, the treatment must involve learning and development" (1982, p. 71).

Cognitive-behavioral approaches do involve learning and development. Kanfer (1970) describes the role of the cognitive behavior therapist: "The therapist serves as a consultant and expert who negotiates with the client in how to go about change and to what end. The interactions are future oriented in that they focus on the development of general repertoires for dealing with problem situations" (p. 336). Kendall and Braswell (1985) adopt a similar view of the cognitive behavior therapist: "The task of the cognitive-behavioral therapist is to collaborate with the client to assess distorted or deficient cognitive processes and behaviors and to design new learning experiences to remediate the dysfunctional or deficient cognitions, behaviors, and affective patterns" (p. 2).

Teachers who implement cognitive training programs with handicapped learners find their roles of motivator, model, instructor, and coach consistent with their educator role and with their emphasis on teaching. For the past decade the role of the school psychologist has been restricted to testing students for purposes of placement in special education and formulating behavioral management strategies for disruptive students. As Goetz, Hall, and Stricker (in press) argue, psychologists functioning in the first role are able to offer little to educators in the way of instructionally relevant recommendations. In the second role, psychologists are excluded from the main purpose of schooling (i.e., teaching). Because the methods and goals of cognitive-behavioral approaches are more congruent with those of schools, school psychologists who apply a broadened behavioral model to developing child competencies will secure for themselves a more central role in schooling.

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4. EARLY INTERVENTION, PRESCHOOL SERVICES, AND THE FUTURE OF SCHOOL PSYCHOLOGY

by Kathleen D. Paget

The future of school psychology in preschool and early intervention service delivery is conceptualized as being influenced by forces within society at large and within other human service delivery professions. The expanding scope of early intervention and early childhood services and the availability of resources are discussed in the context of changing socioeconomic and demographic forces. The impact of Public Law 99-457 is predicted with respect to new options for least restrictive environment, team models, parent/family involvement, research design, computer technology, and functional assessment/intervention plans. The need for training in both the content and the process of service delivery to infants, toddlers, and preschoolers and their families is discussed.

IMPLICATIONS OF PUBLIC LAW 99–457

With the passage of Public Law 99–457 (Education of the Handicapped Act Amendments of 1986), new challenges are emerging for school psychologists. This law mandates services to preschool-age children with handicapping conditions (Part B) and strongly encourages states to develop and implement early intervention programs for at-risk and handicapped infants and toddlers and their families (Part H). The implementation of this legislation has opened the way for school psychologists to expand their services (1) from school-age populations to include very young infants, toddlers, and preschoolers and their families, and (2) from school settings to nonschool settings, such as medical centers and early intervention programs. In addition to expanded service delivery options, P.L. 99–457 has created new vistas in the areas of training, policy, and research.

Growing numbers of writers are portraying school psychologists as early childhood specialists (Bagnato, Neisworth et al. 1987; Barnett 1986; Paget 1985; Paget & Nagle 1986), and growing numbers of school psychologists are networking to gather information related to preschool service delivery. Since its inception in 1984, for example, the NASP/APA

Preschool Interest Group has grown from a fledgling group of 5 members to a large, active group of over 300. These writings and organizational activities form a useful backdrop for understanding school psychology's involvement in early childhood service delivery. When attempting to analyze the future of school psychology in the delivery of service to young children and their families, it is essential to look at what is happening not only within our own profession but also within other professions and society at large. In this chapter, school psychology is viewed as a profession embedded within a context of influences from society and from other professions, such as special education, education, social work, medicine, and computer science. It is the belief of this author that the future of school psychology is inextricably entwined with these influences, which warrant considerable attention.

INFLUENCES FROM SOCIETAL VARIABLES

The future of all human service professions is inevitably affected by societal variables, such as fiscal and personnel resources, the socioeconomic climate, and changing demographics. In a recent article Odom and Warren (1988) discuss three societal trends specifically affecting the future of professions involved in early intervention to children and families. The following is a brief discussion of two important trends: the scope of early intervention services and the availability of resources to support these services. These trends reflect changes far beyond any one profession, and our responses to them could substantially affect what school psychology and other professions accomplish in the early intervention arena.

Scope of Early Intervention Services

According to Odom and Warren (1988), national policy and demographic forces will combine in the future to increase substantially the number of children needing early intervention services. In addition to the mandates of Public Law 99-457, which targets young children with disabilities, numerous arguments have been advanced for enhanced funding for early intervention with disadvantaged children (e.g., Mitgang 1987). In fact, policy makers and politicians have looked to regular early childhood education as the "answer" to an array of problems, including our high drop-out rate (National Governors Association 1986). Also supporting an expansion in the scope of early intervention services are recent demographic trends. There is substantial evidence that conditions fostering mental retardation and developmental disabilities are on the upswing nationwide. Children who live in poverty are one-and-a-half to two times more likely than nonpoor children to suffer from one or

more disabilities, and at least one in every four children is now raised in poverty (Children's Defense Fund 1986).

Bricker (1988) makes a similar prediction while voicing a concern for infants and young children who are at risk for developing problems or are mildly handicapped. Whether these populations are increasing in size or whether professionals are becoming more sensitized to the existence of these infants and their families is unclear. Nevertheless, these groups now include premature and medically fragile infants, infants who are neglected/abused, infants from families that are disorganized, and infants from families that lack educational, financial, and emotional resources. To accommodate these populations, our classification and labeling systems must give way to other diagnostic terminology such as "established risk, environmental risk, and biological risk" (McLaughlin 1988, p. 278).

Furthermore, technological innovations might lead to increased survival rates of infants born with disabilities (Scott & Caren 1986), thus increasing the number of children identified as "high risk" and in need of early intervention services. We already are witnessing growth in the number of children who are "technology-dependent," although other medical advances may be tempering this growth through the prevention of severely handicapping conditions (Joffe 1982). An additional factor increasing the number of children in need of early intervention is the rapid spread of Acquired Immune Deficiency Syndrome (AIDS) and the related Human Immunodeficiency Virus (HIV). Medical researchers now predict that within the next five years HIV will become the largest infectious cause of mental retardation in children (Diamond & Cohen 1987). Gallagher (1988) refers to AIDS and HIV as "wild cards" (p. 274)—that is, events that are difficult to predict and that change relationships that one had assumed to be constant in earlier predictions.

Enhanced interest in education generally and in early childhood education specifically could both benefit and damage early childhood services. Benefits could include an enhanced status of teachers and other professionals and increased numbers of three- to five-year-old children without disabilities in integrated classrooms. On the other hand Odom and Warren (1988) caution us not to elevate expectations regarding the benefits of early intervention to an unattainable level or bureaucratize our education systems to such an extent that the creativity and originality that now characterize early intervention services are diminished.

Availability of Resources

The adequacy of fiscal and personnel resources will significantly influence early intervention services. An essential question is whether funding will be sufficient to ensure effective, high-quality programs. Though

Odom and Warren (1988) comment that in the past, early intervention services have been offered at "bargain-basement prices" (p. 268), they concede that a major benefit of Public Law 99–457 is that salaries for teachers and other education personnel will rise dramatically in those states where early intervention programs are now included under the Department of Education. Nevertheless, contemporaneous forces, such as the stability of the U.S. economy and the necessity of devoting public resources to an aging American population, may mediate these increases.

INFLUENCES FROM EDUCATION AND PSYCHOLOGY

Concomitant to influences from society at large are influences from within psychology and education, which will affect the future of school psychology in early intervention. Odom and Warren (1988) have offered predictions about these influences with respect to least restrictive environment options, models of team functioning, family involvement, research, and computer technology.

Least Restrictive Environment

Opportunities abound for school psychologists to be creative when developing a least restrictive environment (LRE) for infants, toddlers, and preschool-age children. Various combinations of full- and half-day center- or home-based services should be considered when attempting to meet the needs of individual children and their families. Realistically, some barriers do exist to finding more integrated alternatives for preschoolers with handicaps in public school classrooms. One of the biggest barriers is that under P.L. 94–142, public school systems have not ***had*** to provide the mainstream form of the LRE option when they do not provide programs for normally developing preschool children. Nevertheless, other LRE options for young children with handicaps, such as those available in day care settings (Bagnato, Kontos & Neisworth 1987), are increasing. Odom and Warren (1988) predict that LRE placements for preschool-aged children will be represented by a building-level integration model or an integrated day-care setting rather than a classroom integration model. Regardless of the specific operational definitions of LRE, our goal should always be to provide handicapped children with a rich array of varied and normalizing experiences (e.g., recreation). Interaction with the nonhandicapped is but one feature of these experiences.

Emergence of a Transdisciplinary Model

The two basic components of P.L. 99–457 (the Preschool Grant Program and the Program for Handicapped Infants and Toddlers) will prob-

ably result in somewhat different relationships across professional disciplines. For preschool-aged children with handicaps, Odom and Warren (1988) predict loose interdisciplinary relationships, most often among the teacher, speech pathologist, physical therapist, psychologist, and other support personnel. The greatest change will be for the school psychologist who works with handicapped infants and their families. The very young age of this population calls for early interventionists to move away from distinct roles as special educators or psychologists and into the more transdisciplinary role of developmental interventionist. In the role of "educational synthesizer" proposed over a decade ago by Bricker (1976, 1986), a single professional serves as the central person in the intervention, while other professionals on the team serve as consultants. Although individuals from other disciplines, such as social work, nursing, speech pathology, and physical and occupational therapy, could assume this role, a trend is emerging for education professionals (special educators and school psychologists) to move into the central interventionist role. In this respect 36 percent of the states have designated their state departments of education as the lead agency for providing services to infants and toddlers with handicaps and to their families (Campbell, Bellamy & Bishop in press), thus establishing a clear education emphasis. Certainly the means of operationalizing this role will vary from school setting to nonschool setting. Recently Bricker (1988) underscored the importance of professional collaboration by stating that the quality of our efforts toward collaboration will set the tone for the quality of our services in general. The increased emphasis on interagency collaboration raises other issues that need attention, such as confidentiality of information, efficient case management, and participatory decision making by parents.

Theoretical and Empirical Bases for Family Involvement

The emphasis in P.L. 99-457 on parental and family involvement has vast implications for school psychologists. How, where, why, and when we have contact with parents will change as we involve them more closely in the entire assessment/intervention process and provide services in the home environment when that setting is deemed least restrictive for a particular child. More than any other educational legislation preceding it, Public Law 99-457 emphasizes professional responsiveness to family needs, and the professional literature supports the viewpoint that relevant family members should be the ultimate determiners of the service plan (Dunst, Trivette & Deal 1988; McLaughlin 1988). Thus, if we are conscientious service providers, we will witness in the next decade what Hobbs (1975) proposed in the last decade: "Parents have to be recog-

nized as special educators, the *true experts* on their children; and professional people (teachers, pediatricians, psychologists, and others) have to learn to be consultants to them" (p. 47).

Especially within Part H of P.L. 99-457, there is impetus to offer services to entire families rather than simply to parents. Part H provisions for handicapped infants and toddlers require the development of an individual family service plan, based on a changing view of the family as an operating social system among other systems (Barber et al. 1988; Bronfenbrenner 1979). Thus, the extended family, siblings, and significant others will be important influences on and recipients of services. Information is already being disseminated regarding practical guidelines for developing specific interventions for specific families (Dunst, Trivette & Deal 1988), and refinement of these guidelines will be taking place in the future. Growth in basic and applied research with families will occur in order to nurture practice, which in turn will generate further questions for research.

Research Designs

Research directed toward the development of innovative and effective intervention procedures in the future will rely more on single subject designs (e.g., Yin 1984) that allow for close analysis of progressive changes concomitant with treatment (Gallagher 1988). Odom and Warren (1988) also predict more emphasis on the investigation of the ecobehavioral contexts in which early intervention occurs (compare Carta, Sainato & Greenwood 1988) and on the social validity (Wolf 1978) of intervention methods from teachers' and parents' perspectives.

Advances in Computer Technology

The past decade has witnessed tremendous changes in computer technology, resulting in decreased costs and increased capacities. During the next decade it is likely that microcomputer technology will become embedded in early intervention practices in a variety of ways. These include management of instructional programs for children (Toole, Copel & Fogarty 1986), dissemination of intervention programs to rural areas through telecommunications (Sandall et al. 1986), and use of augmentative communication devices (Robinson 1986). Of interest will be the appropriate and effective use of specific technology with specific children within specific environmental circumstances (Johnson 1986) and the training of personnel for effective use of microcomputer technology (Semmel et al. 1984).

Other Trends

In addition to the above predictions, Bricker (1988) has raised issues to be addressed by early intervention personnel in the next decade. One of these issues concerns changes in the Individual Education Plan (IEP) process within the preschool component of P.L. 99–457. One challenge is to develop functional intervention plans that capitalize on the naturally occurring contingencies in the environments of young children. Curriculum-based assessment models that are currently emerging (e.g., Bagnato, Neisworth & Capone 1986) are a necessary but not a sufficient part of this process. To keep pace with current trends Bricker asserts that we must expand child-focused assessments to include environmental assessments of relevant setting variables that impact a young child's development. Another challenge is to improve the satisfaction felt by parents and professionals as a result of the IEP process (Turnbull & Winton 1984). Changes must occur to create genuine family involvement and support (Dunst, Trivette & Deal 1988). Hopefully, implementation of the Individual Family Service Plan (IFSP) in Part H of P.L. 99–457 will focus increased attention on working with the entire family for preschoolers as well as for infants and toddlers. It will be vitally important to maintain the spirit of the law, as it is reflected in House Report 99–860, as well as the letter of the law when implementing IFSPs and IEPs for young children and their families.

Another trend cited by Bricker (1988) involves changes in the approaches taken toward developing intervention strategies. She mentions increased emphasis on children's self-initiated activities as the basis for instructional targets and increased flexibility in service delivery in order to include unique combinations of home- and center-based programs tailored over time to meet the changing needs of children and families. Indeed, as professionals involved with the education system, we must make progress toward changing programs to fit children and families rather than forcing them to fit programs.

Finally, Bricker (1988) raises concerns regarding the manner in which state agencies choose to incorporate the services required under P.L. 99–457. Specifically, the issue is whether infant and preschool programs are treated as add-ons or whether they are integrated into existing service delivery systems. As add-ons they will be seen as separate entities for which standards and expectations may differ. On the other hand, moving children into already existing programs might be inefficient and costly because existing systems would be required to extend and modify interventions based on developmental principles to accommodate younger children and their families. In the near future, school psychologists who are in administrative positions will find themselves working collaboratively with other professionals to make decisions about integrated or supplemental program delivery.

PERSONNEL NEEDS

From the above discussion it is clear that professionals from a variety of psychological, educational, therapeutic, medical, and family/social service disciplines are needed at various levels to provide quality early intervention services. Although it is impossible to estimate accurately the number of new personnel that must be trained to provide comprehensive services, Meisels (1986) determined that there will be an 80-percent shortfall in the number of early childhood special educators by 1990 (which is the year states are required to provide comprehensive services for handicapped children aged three through five). Moreover, it is anticipated that one million children under the age of five will experience developmental disabilities (Reaves & Burns 1982). Given the emphasis in P.L. 99–457 on case management and interdisciplinary collaboration, the need exists to train professionals not only in the specialized skills appropriate for a particular population or age group but also in the communication skills required to interact effectively with parents and members of other professional disciplines (Bailey et al. 1986; Bailey & Wolery 1984). Thus, training programs in school psychology must make coordinated efforts to provide preservice and in-service training in skills relative to both the content and the process of effectively serving young children and their families.

SUMMARY AND CONCLUSIONS

In attempting to predict school psychology's future in early intervention, we know that some events will be out of our control and others will be within our control. It seems appropriate to close this chapter with a discussion of several large-scale, macrosocial strategies that we can use to seize control to the greatest extent possible. Hayes (1982) noted five basic factors affecting formulation and evolution of social policy: (1) *context*, the manifest beliefs and climate of the times; (2) *constituency*, the pressure exerted on policy by organized and unorganized groups; (3) *media*, how it is used and manipulated; (4) *actor/institutions*, the effect of individual public figures; and (5) *research*, the use of research findings to shape public policy.

Of these five variables, research, media, and constituency are within our most direct control. The need for efficacy research presents a persistent challenge, and we must begin to pursue specific answers to the more enlightened question of *what types* of interventions are effective for *which* children and families under *what* conditions (Shonkoff et al. 1988), rather than attempting to answer the general question of whether early intervention is effective. In addition, we must ask questions about the postintervention experiences that affect the long-term development

of children who respond positively to early intervention programs (compare Woodhead 1988). As mentioned earlier, we also must enhance our sophistication and comfort with single subject designs that allow a close longitudinal look at the complexity of variables affecting children within family and school environments. Finally, we cannot afford to be naive about the fact that the media presentation of issues is often more important than the substance of these issues (Odom & Warren 1988). Thus, we must utilize the media in sophisticated ways to disseminate research results and guidelines for policy and practice. If we work collaboratively with other professionals, such as the Division for Early Childhood of the Council for Exceptional Children and the Washington Liaison Office of the Society for Research in Child Development, we will strengthen the basis for an influential constituency that includes the school psychologist as an essential member.

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5. BIOLOGICAL BASES OF BEHAVIOR AND SCHOOL PSYCHOLOGY: RICHES OR RUIN?

by Cecil R. Reynolds

The central nervous system, particularly the cortex, emerged from the age of behaviorism in healthy fashion. Since the late 1960s, research related to the biological bases of behavior has increased geometrically. Examples of advances in our knowledge of behavioral neurochemistry, the neuroanatomical basis of certain specific learning problems, and the relationship of this knowledge to diagnosis and treatment are introduced.

During the 1960s and through the early 1970s, research and writing about behaviorism (under the rubrics of behavior modification, behavior therapy, applied behavior analysis, and Skinnerian psychology, among others) dominated the public view and to a lesser, but still surprising degree the professional view of psychology and its practice. Research into brain-behavior relations (the field of neuropsychology) and the biological bases of behavior was viewed less favorably than at any previous time, and biological and related medical models of behavior and psychopathology were often viewed with open hostility.

Nevertheless, research into the biology of human behavior continued, and publication of basic and clinical research in neuropsychology exploded during the 1970s. While behaviorists were arguing that the brain was best treated as a "black box" unrelated to learning, neuropsychologists were busy demonstrating the importance and the validity of the opposing argument.

Because of space limitations, I have chosen to highlight only some areas of particular relevance to the clinical and consulting practice of school psychologists. The brain remains and indeed grows in its importance to psychology. It is not a passive participant in the learning process but a generative organ, taking an active role in the construction of reality. This bit of knowledge alone, often proffered over the last centenary but recently buttressed by considerable research (e.g., Wittrock 1980), makes the brain a crucial point of study in understanding and treating psychopathological disorders, whether they are learning or behavior disorders, and in facilitating optimal levels of normal development. Indeed, as the

understanding of the brain and related biological bases of behavior increases, with the exception of certain specific disease processes the boundaries among psychology, psychiatry, and neurology become less and less distinct.

There is another clear reason to become knowledgeable and to keep abreast of knowledge in the biology of behavior, even for those whose major focus might be antithetical to the much maligned medical model: diagnostic and treatment processes require flexibility and adaptability. Children, even more so than adults, come to us with disorders of development, learning, and behavior that differ in cause to lesser and greater degrees, no matter the similarity of symptomatology. Each child presents a unique set of experiences tied to the interaction of his or her unique genetic composition and individual experience of environment. Some of these disorders are amenable to routine treatment, but few unfortunately. The complexity of children, amplified by their uniqueness, dictates that we must be willing to view them from a variety of perspectives and humble enough to adopt diagnostic and treatment approaches that work for the individual child. It will not always be the same model for a given syndrome of behaviors. Just as the physician must hand off to the psychologist for behavioral treatment the hyperactive child who is unresponsive to the variety of typically effective psychopharmacological treatments, so must we be knowledgeable of when and how to seek application of the medical model for such disorders as eneuresis and childhood depression, despite our usual success in treating such disorders with behavioral means.

PSYCHOPHARMACOLOGICAL EXAMPLES

School psychologists need to be knowledgeable to facilitate obtaining proper treatment and treatment success in a variety of the childhood psychopathologies. Rapid changes have occurred in psychopharmacotherapy, and it is unlikely that such rapid movement will abate. In counseling parents and teachers and in working individually with children, it is crucial to have a basic understanding of how conjunctive pharmacotherapy might be affecting a child.

Attention-Deficit Hyperactivity Disorder (ADHD)

Even with ADHD (hyperactive behavior syndrome), a syndrome long noted for successful, if controversial, pharmacotherapeutic treatment with stimulants, the first-line drugs might change with better diagnostic data, data that can often be provided to the managing physician by the school psychologist. Our knowledge of these drugs' side effects, their

long-term consequences, and their mechanisms of action has improved and can enhance treatment adherence among families.

The most common treatment for ADHD remains stimulant medications, primarily methylphenidate because of its predictability of response, the fact that it is not an amphetamine and is not typically "abused," and the now well-researched fact that it is not addictive. Dextroamphetamine and magnesium pemoline (Cylert) remain in heavy use as well. We now know that many of the side effects feared earlier are rare or nonexistent with long-term treatment. Growth suppression is one common fear that now appears to be unsubstantiated (e.g., Adams & Fras 1988). More controversial, however, are findings that a dosage level by learning interaction might be present, which creates an ethical and treatment dilemma for all involved. As Barkley (1981) has noted, low dosages of stimulants might enhance learning but would not bring disruptive classroom behavior under control. At the dosages required to calm disruptive behaviors, learning might not improve. More recent reviews reach differing conclusions as well. A metanalysis of classroom outcome studies of students taking stimulants at typical dosage levels (Forness & Kavale 1988) reports increases in academic performance two-and-a-half to three times greater than increases attributable to specialized teaching and special education programming. Brown (1987), however, considers the "failure" of psychostimulants to improve academic learning to be one of the major disappointments in the treatment of ADHD. Recent studies, also reviewed in Brown (1987), have demonstrated that ADHD does not have a benign prognosis in adulthood but rather is associated with serious problems during the adult years.

Psychopharmacologically, stimulants are not always the first line of defense; new evidence points to other drugs, depending on the circumstances and the specific syndrome of behavior. The last five years have seen a profound change in the practice of many clinicians. When ADHD is the presenting problem and a latent depression is diagnosable as well, the tricyclic antidepressants—in particular, imipramine (Tofranil)—are more effective and are the preferred treatment. In cases in which ADHD coexists with severe conduct disorders and more serious losses of impulse control, the class of agents known as neuroleptics (also known popularly as antipsychotics and acting as dopamine blockers) is the more successful treatment. This is an intriguing change in practice and an equally intriguing finding since dopamine is likely to be deficient in the brain of ADHD children.

The desired effects of tricyclic antidepressants and neuroleptics differ dramatically from one another and from stimulants, as do their mechanisms of pharmacologic action. Behavioral changes might not be the same, and the potential side effects differ substantially. One must be abreast of such changes in order to consult adequately with parents,

teachers, or other staff having regular contact with ADHD students receiving psychopharmacotherapy. Such students are encountered in regular education but also in special education resource programs. Specific developmental disorders often coexist with ADHD.

The medical literature of the past decade also provides us with extensive information about so-called miracle cures for ADHD and specific learning disorders; they do not work—but they receive publicity. Parents and even teachers might be led to such treatments, and our expert advice can be invaluable in directing them instead to effective treatments. Some of the most publicized, but largely ineffective treatments being touted to parents today include the Feingold Diet (also called the Kaiser-Permanente Diet), low sugar diets, hypoglycemia treatments, the introduction of dietary caffeine, and the use of motion sickness or antivertigo drugs (based on the hypothesis that ADHD and reading disorders are caused by cerebellar-vestibular dysfunction). There is no evidence to support these treatments and much to refute their efficacy (Adams & Fras 1988); their use tends to divert parents from appropriate treatment sources.

Childhood Depression

The recognition and consistent diagnosis of depression in childhood is a relatively recent phenomenon; prior to the late 1970s depression was rarely diagnosed during childhood, and the primary views of psychology and psychiatry were that childhood depression probably did not exist. It is now a common diagnosis among children and is quite responsive to treatments that might need to differ, depending on the etiology as established during diagnosis.

The causes of depression can be roughly divided into two general classes, psychosocial and biological. A variety of differential diagnostic questions is important in childhood depression, including among others the acuteness or chronicity of the episode, familial depression, reactive states, and the organic versus functional form of the disorder. Different states are responsive to different treatments. Functional depression is often most responsive to cognitive-behavioral interventions. The biologically based depressive episode will almost always require psychopharmacological interventions, but this is seldom effective for long periods without psychotherapy *and* parent consultation. The pharmacological agents most often used in treating childhood depression are the tricyclic antidepressants, and the most popular of this group are imipramine and desipramine. These drugs are highly effective but have narrow therapeutic ranges, making inadvertent overdoses a significant problem. One set of side effects that should be monitored carefully at school is the rare but crucial deterioration of behavior that can occur with tricyclics. On occasion, a depressed child receiving tricyclic treatment will begin to show

overactive, aggressive behavior, coupled with impulsivity and a lack of concern for others.

Parents should tell school personnel when students are receiving psychopharmacotherapy so that better monitoring can occur. Parent consultation and even individual therapy, requisite adjuncts to the pharmacotherapy of depression in students, may also be appropriate responsibilities of the school psychologist, but only if she or he is knowledgeable about the biology of depression and its pharmacological as well as psychosocial treatment.

Other Disorders

Numerous other childhood disorders are now being treated with psychoactive drugs, and the list is growing. Disorders more commonly treated with psychoactive drugs during childhood include eneuresis and encopresis (both of which are better treated using behavioral interventions if the family is cooperative), psychotic disorder, disturbance of mood (particularly anxiety and phobic disorders), organic mental disorders, and certain of the personality disorders (the latter particularly in adolescence). The use of psychoactive drugs with children is increasing, and this trend is likely to continue. It is only through continuing to update our own knowledge of the strengths and weaknesses of these interventions that we can be optimally beneficial to the students, teachers, and families involved in such treatments.

BRAIN SYSTEMS

Knowledge of brain systems (sets of anatomically connected, functionally reciprocally interactive brain sites) has increased monumentally in the past twenty years, more so than in the entire previous history of brain research. Much is known about complex functional systems that subserve specific processes; however, more light has been shed on the interactive function of the frontal lobes of the cortex, the limbic system, and the reticular activating system than perhaps on any other system of late. This is probably due to the ignorance of the interaction of these systems, particularly the frontal lobes, evident prior to the late 1960s and early 1970s.

These pathways are crucial to all aspects of higher-level functioning but do so primarily through regulating consciousness, regulating emotion, provoking and consolidating memory, directing and controlling attention, and generally providing for the self-regulation of behavior.

Many advances in our understanding of how to treat children and adolescents with head injuries that affect these systems have occurred, particularly in the last decade. Numerous programs for cognitive rehabilitation

(or cognitive retraining) have been designed (e.g., Trexler 1982). The control of behavior of head-injured children, particularly those with frontal lobe trauma, is a significant issue and one that has seen many improvements as well. Frontal lobe syndrome—which presents itself often as attention and memory deficits, poor impulse control, poor social judgment, emotional lability, and poor planning ability—and frontal-limbic systemic disturbances are highly disruptive to schooling and require multimodal interventions that include a physician, a psychologist, the student's teachers, and the parents. Antidepressant medications, particularly tricyclics administered in low dosages (far lower, for example, than would be used to treat depression) are likely to be used in such a treatment program, and in some instances stimulants are helpful. Behavior modification programs are useful only with some of these children, and our knowledge of the anatomy of the injury is important in choosing a treatment plan.

Individuals with hippocampal lesions (the hippocampus is a major component of the limbic system and plays a crucial role in developing memory) are not responsive in most instances to ratio or interval reinforcement schedules, and alternatives to behavioral treatments are usually necessary. Those who do respond to behavioral programs have extreme difficulty with generalization. In addition to medication, cognitive prostheses must be developed for the specific problems of each child. Memory aids and cues for behavior control are usually the most helpful and effective.

Parents are an integral component of intervention with these difficult-to-manage children. Thus, parents must be taught why and how to assist in using memory aids and in cueing behavior. Regimentation of schedules (i.e., environmental consistency) is also crucial to success, especially when there is limbic involvement. Normal, day-to-day inconsistencies in schedules, programs, and especially parent and teacher responses to behavior problems are substantially defeating in attempts to control the behavior of children with frontal and limbic damage.

Parents and teachers must be involved in all stages of the treatment of these youngsters beyond the acute care stage. Supportive psychotherapy is useful in most of these cases as well. Knowledge of the brain systems involved and the effects of the various medications being used (many of these students will also be taking antiseizure medications) will improve the school psychologist's ability to derive and guide treatment plans. Without this knowledge many dead-end roads might be traveled before reaching one's destination of improvement and control. Even the design of academic remediation programs can be facilitated by knowledge of the brain systems involved and the functions principally disturbed or intact, leading to effective strength models of remediation (compare Hooper & Willis 1989; Reynolds 1981).

RECOGNITION OF BIOLOGICALLY BASED DISORDERS

The ability to recognize when a youngster is presenting problems with an organic etiology or when organicity is a contributing factor requires knowledge of the biological bases of behavior. When differentiating biological from psychosocial and reactive depressions, signs of disruptive biology must be surveyed. While this is one of the most common questions of organicity, other behavior and learning problems might have an unnoticed biological base, which, if diagnosed, could have treatment implications.

The prevalence of closed-head injury has been referred to as an epidemic—and the subtle nature of the problems evidenced has led to the characterization of closed-head injury as a "silent epidemic." Individuals with closed-head injury might never come to the attention of medical personnel, and many who do are dismissed as fully recovered once the life-threatening phase of the injury has passed. Whenever the skull is struck, the brain is cushioned by the cerebrospinal fluid and might be protected from injury caused by impact with the skull. In such cases there might be no recognition of injury. Nevertheless, bilateral damage to the base of the temporal lobes is common as a result of the twisting and stretching that occurs when the brain moves. Shearing injuries might result as the brain also scrapes the bony surface of the skull underlying the temporal lobes. Such injuries might never be recognized but often result in memory and attentional deficits as well as problems with concentration, heightened anxiety, and difficulty in consolidating new learning. Neuropsychological evaluation is required to diagnose such problems accurately.

Poisoning and chronic exposure to neurotoxins—especially the heavy metals, such as lead and mercury, and inhalants, particularly gasoline—produce minor behavioral aberrations and learning problems that may be seen as psychosocial in origin at low levels of exposure. Lead is particularly disturbing in this regard. In the last decade the blood-lead level known to be associated with disorders of development, learning, and behavior has been halved. The use of gasoline as an intoxicating inhalant by students is rapidly increasing and is becoming particularly common among low socioeconomic groups because they can get gasoline cheaply and legally. These neurotoxins produce a variety of symptoms at low levels but are associated particularly with ADHD, conduct disorders, and specific learning disabilities.

Careful history taking is important in all aspects of diagnosis and is crucial to successful recognition of these neurological problems, including closed-head injury. Without knowledge of the behavioral and cognitive manifestations of these biologically induced (through environmental impact) disorders, they might be mistaken as psychosocial, misdiag-

nosed, and treated ineffectively or, at best, in a less than optimal fashion. These biological disorders must be recognized to receive proper treatment.

In all of these cases the central nervous system is compromised to some extent. Supportive therapy and alternation of daily activities or the demands of living might also be required, though they might not be necessary in the case of purely functional disturbances. A major reason for this is the increased sensitivity to stress created by central nervous system trauma. Individuals who have experienced such trauma are often seen as irritable and emotionally labile; underlying these problems is a fragile, hypersensitive central nervous system. With such children, supportive therapy will always have a role in the treatment program, and simplistic models that focus, for example, only on attempts at teaching social skills are not in these individuals' best interest. Multimodal interventions that adopt parts of the medical, behavioral, and psychoeducational models are clearly required.

SUMMARY

The examples above merely highlight some of the areas of advance having to do with the biological bases of behavior that are particularly relevant to school psychologists. There are a multitude of other areas that are progressing as well and that promise to influence our practice. Animal models of self-injurious behavior have been successfully devised and chemically controlled. Low-birth-weight infants, those weighing less than two-and-a-half pounds, have now grown to school age and are presenting us with new challenges. More than 60 percent of these students are in special education by fourth grade and have known, biologically based problems of learning and behavior (Hynd 1988). Our collective knowledge of these individuals grows on a daily basis. As such medical marvels as the routine survival of the two-pound infant become commonplace, the impact of altered biological systems on our practice will continue to grow. True multidisciplinary teams will be required for treatment.

The school psychologist plays an important role in diagnosis, treatment planning, treatment delivery, and vocational planning for these students. To take on such a role in the absence of knowledge regarding the biological bases of behavior and their impact on treatment is certainly unethical and probably constitutes malpractice. As the knowledge base continues to explode, however, keeping abreast of the field is no mean feat.

Employers must budget real time for professional staff to read new literature weekly and to attend appropriate professional meetings periodically. Review journals (e.g., *School Psychology Review*, *Clinical Neuro-*

psychology Review, and *Psychological Bulletin*) are excellent and expedient resources, as are larger reference works. Keeping up is hard work, and specialization even within school psychology seems required in the near future. The biological bases of behavior can lead to riches in our diagnosis and treatment of disorders of development, learning, and behavior—but only if we seek such knowledge and apply it judiciously and without narrow, zealous adherence to a singular model of abnormal human behavior.

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6. FUTURES IN SCHOOL PSYCHOLOGY: COMMENTARY

by George W. Hynd

There are indeed many possible futures in school psychology. Reflecting the dynamic growth of services provided to school-age children and adolescents, training and specialization in many divergent subspecialties are possible within school psychology. Further, school psychologists can be defined in terms of the specialized settings in which they are employed. For example, reading through the journals in school psychology over the past several years, one finds that there are guidelines for training and practice for urban school psychologists, rural school psychologists, school neuropsychologists, preschool psychologists, school psychologists in family practice, cognitive-behavioral school psychologists, and school psychologists who are employed in private practice.

As a result of this prismatic growth in terms of the many possible roles school psychologists can take, training programs at the doctoral level now offer focused preparation in school consultation, neuropsychology, child development, counseling and intervention, behavioral therapy and intervention, social skills training, curriculum-based assessment and instruction, and so on. All of these rather focused curriculum approaches are offered in the larger context of specialist and doctoral programs accredited by NCATE–NASP, state departments of education, and the American Psychological Association (APA). Not only must these training programs be responsive to the many different roles of school psychologists, but also they must be sensitive to a constant evolution in professional training standards that might or might not be related in any obvious fashion to the needs of the practicing school psychologist.

All the chapters in this special monograph reflect the dynamic forces at work in shaping the field of school psychology. Hughes provides an excellent overview of those issues relevant to the practice of cognitive-behavioral school psychology. Likewise, Paget and Rosenfield provide solid discussions of the future of early intervention and instructional consultation in school psychology. In the above context, however, it is evident that not all specialized areas within school psychology are addressed in this monograph. While space clearly limits what can reasonably be addressed, the three chapters noted above illustrate the complexities involved in *any* area of specialization within school psychology. Thus, these chapters should serve as notice that there is no longer a generic school

psychologist. There are so many demands from other professionals in many different settings for the skills of the school psychologist that, as with other doctoral-level psychologists, specialized training has become the norm.

However, what of the subdoctoral school psychologist? If one examines current NCATE–NASP standards and domains of knowledge recommended for school psychologists, one finds a disturbing discrepancy between what the doctoral-level accreditation organizations (e.g., APA) require and what the more education-oriented NCATE–NASP requires. At the doctoral level there is significantly greater emphasis on acquiring knowledge in the core areas of psychology (e.g., the biological basis of behavior, social psychology, personality psychology, abnormal psychology, history and systems, etc.) and on increasing the predoctoral practicum to nine hundred clock hours and the predoctoral internship to two full years (Belar et al. 1989). At the subdoctoral level school psychologists receive little specialized training other than what is required by NCATE–NASP, and the courses, not surprisingly, have a decided educational emphasis with very little coursework required in the traditional core of psychology.

It seems that a natural split will eventually occur in school psychology between the doctoral-approved (APA) and subdoctoral levels. If school psychologists ever wish to engage in nonrestricted private practice or be employed where licensure is required for billing purposes (e.g., in hospitals, residential treatment centers, etc.), then it is clear that the doctoral-level training programs will have to extend their programs even more to accommodate increasing training standards. While this might produce more comprehensively trained school psychologists, who indeed might be able to seek employment in specialized settings, it will further distinguish them from their nondoctoral counterparts.

The basic question to be addressed in considering the futures of school psychology is not whether one should specialize in one area or another in order to meet the increasingly greater needs of our public education system. Rather, as Kurpius and Scott suggest in Chapter 1, the profession could well profit from a paradigm change. Whether our paradigm shift occurs after a crisis or is the result of careful, but dramatic self-examination is not relevant. School psychology must address this question: Is a school psychologist an educator trained in psychology or a psychologist with specialized training in education practices?

It is my conclusion, after careers as a classroom teacher, school psychologist, trainer of school psychologists, and director of school psychology programs, that school psychologists should be trained at the doctoral level in accordance with APA standards, pursue APA-approved internships, and be licensed as psychologists, just as clinical psychologists, counseling psychologists, and other applied psychologists are. There are

many positions for school psychologists in alternative settings, but to compete and be respected members of the professional staff in these alternative settings, school psychologists should present credentials expected of other applied psychologists. While there are clearly many political realities that must be addressed, it appears that a more facilitative environment will foster such a nationwide shift within the next several decades (Fagan 1989).

What of the subdoctoral school psychologists trained according to NCATE–NASP standards? One not too popular suggestion proposed years ago was that they should not use the word *psychologist* in their title. Assistant school psychologist or other such titles are demeaning and clearly inappropriate. What might be more appropriate, however, is to consider a substantial shift in orientation, acknowledging the primary affiliation with education, and change the position description to that of psychoeducational consultant.

Clearly the proposal noted above will not draw much support. It does highlight the fact though that school psychologists are now being trained so divergently as to make any future comparison between the products of APA-approved, doctoral-level training programs and those of NCATE–NASP-approved, nondoctoral programs inappropriate. Forces outside of school psychology are indeed impacting on how the public perceives the roles and services provided by psychologists in general. The widening gulf between those specialized services that can be offered by doctoral-level school psychologists and the relatively narrow, psychometric-educational consultation roles fulfilled by subdoctoral school psychologists is at the very least confusing to the public, let alone to other allied mental health professionals. It might well be time to reconsider the future *of* school psychology rather than futures *in* school psychology. A point in time might be approaching when issues related to professional preparation will impact on our profession, imposing a paradigm shift.

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7. PLANNING THE FUTURE OF SCHOOL PSYCHOLOGY

by Michael J. Curtis

Although its roots can be traced back many years, school psychology as a professional field is very young, essentially having emerged since World War II. Over the last twenty years, however, school psychology has changed dramatically. Fagan (1985) estimates that in 1970 there were approximately 15 books devoted to the field, 2 journals, a small number of state school psychological associations, 100 training programs, and 5,000 practitioners. He notes that by 1985 there were more than 30 books, 4 school psychology journals (plus at least 3 closely related journals edited by school psychologists), professional associations in almost every state, and over 200 training programs. During 1986–87 the National Association of School Psychologists (NASP) had just over 10,000 members. As of February 1989 NASP membership exceeded 15,000, an increase of 50 percent in only two years.

The level and type of preparation for school psychologists have changed markedly as well. While only 4 percent of the respondents to a 1970 survey (Farling & Hoedt 1971) reported having been trained at the specialist or doctoral level, 71 percent of the practitioners responding to a 1986 survey (Reschly, Genshaft & Binder 1987) had been trained at the specialist level or beyond. In a very short period of time school psychology has advanced from being a master's-level profession to being a specialist/doctoral-level profession (Curtis & Zins in press). In addition, most entrants to the field today "have completed a training program that clearly is *school* psychology in both identity and nature rather than one in a related field such as clinical psychology, guidance counseling, or special education" (Zins & Curtis 1988, p. 7). They are "*school* psychology programs, accredited as *school* psychology programs, with faculty who are themselves *school* psychologists" (Fagan 1986, p. 10).

But while the advances of the past two decades are significant, the current issues and challenges are tremendous for a field that has the primary mission of serving the educational and mental needs of all children and youth. Enormous problems face our schools and our students. The Children's Defense Fund (1988) estimates that approximately seven hundred thousand students fourteen years of age and over drop out of school every year. Those who live in poverty are at the greatest risk of school

failure. Unfortunately, one out of every four children in this country does live in poverty—approximately *thirteen million children*! Almost five thousand young people take their own lives each year, and many times that number destroy their lives through drug and alcohol abuse. While the numbers relating to such tragedies are shocking, the number of students who experience learning and adjustment problems is also shocking, although not comparable in nature to such extreme tragedies as suicide and substance abuse.

School psychology has an obligation to respond. As human service professionals we must join with parents, teachers, policy makers at all levels, and other professionals in an effort to bring about meaningful change in our education systems and in the lives of our children. The authors whose perspectives appear in this monograph discuss some of the challenges that they see facing school psychology as well as some of the options and avenues that they believe we must pursue in successfully addressing those challenges.

PLANNING THE FUTURE OF SCHOOL PSYCHOLOGY

The distinction between planning *for* the future and planning *the future* is extremely important. The former reflects an effort to anticipate future events and issues of relevance and to prepare to respond to them in an effective manner. It is what we commonly refer to as a reactive mode of operation and is essentially a problem-solving process. The latter activity reflects a fundamentally different philosophy and the belief that the future can be influenced by the actions that you take. In other words you don't just wait for the future and try to respond to it; you try to at least in part determine your future.

Kurpius and Scott repeat the adage that "a sailing ship without a destination will find any wind favorable." It would seem that for many of its early years, school psychology lacked a "destination." In essence, the field, as Kurpius and Scott suggest, seemed to use existing norms, standards, and objectives to judge its practices and to determine its future efforts. However, contrary to the adage, school psychology did not necessarily find the wind favorable. Faced with persistent role restrictions and a belief that students were not being served as effectively or efficiently as they might be, frustrations mounted.

Recognizing the need to examine possible futures for school psychology, two national conferences (Spring Hill and Olympia) were organized by NASP and the Division of School Psychology of the American Psychological Association. NASP subsequently initiated a long-range organizational planning process that was intended to determine a desired future for school psychology and to emphasize the pursuit of that future in its

own activities. In addition to school psychologists, the process involved representatives from outside the field, including a parent, school principal, director of special education, and member of a state board of education. The process resulted in a goal to redefine the roles and functions of school psychologists beyond those related to being a gatekeeper for special education so that they would provide effective educational and mental health services for *all* students.

The pursuit of that future for school psychology would seem to be a consistent desire throughout all sectors of the field. However, the effectiveness with which it is pursued varies significantly. As part of a very young field, representatives at both the state and the national levels have not yet achieved the sophistication and organizational maturity whereby they can understand and utilize change strategies to maximum effectiveness. Nevertheless, over time they have improved in this arena, and they will continue to do so in the years ahead as they gain experience and develop greater resources with which to pursue their objective.

THE MEDICAL MODEL: A TIME FOR CHANGE

The medical model continues to dominate the delivery of services to students with special needs in our schools. It is founded on the belief that problems are essentially the result of disease characteristics *within* individuals. The medical model also represents the basis for the organization of categorical services, particularly special education. Because of the exaggerated involvement of school psychology with special education, the medical model tends to permeate the professional practice of school psychology.

The medical model is no longer acceptable as the functional basis for the delivery of school psychological services. Given the clear relationships among environmental variables, such as poverty and academic failure, it is particularly inappropriate that this model should be used to conceptualize and respond to the academic and adjustment difficulties of students (Knoff 1984). The medical model has been severely criticized for many years, and recently the categorical model for special education has come under increasing criticism (Gartner & Lipsky 1987; Reynolds & Lakin 1987). "Consequently, national leaders and national associations involved with special and general education are calling for major philosophical and structural changes in the way that services are provided to students currently labeled as handicapped, and to students experiencing learning and adjustment problems in school" (Graden et al. 1988, p. 3). For example, NASP and the National Coalition of Advocates for Students (NCAS) adopted an official position statement, *Advocacy for Appropriate Educational Services for All Students*, in which they called for the development of alternatives to the categorical special education sys-

tem (NASP/NCAS 1985). Replacement of the medical model as the basis for meeting the special needs of students must remain a top priority for school psychology.

THE ECOLOGICAL MODEL: A VIABLE ALTERNATIVE

Students are not organisms that exist in total isolation from their environments; they are in fact part of the ecology itself. They both influence and are influenced by the multitude of forces that surround them and by their own personal characteristics. Rather than attributing the causation of student-related problems solely to characteristics that are internal to these students (the medical model), it is more helpful to consider the various factors that contribute to the situation, giving particular attention to those that can be controlled or manipulated, such as instructional methods (the ecological model) (Ponti & Curtis 1984).

Assessment related to the determination of eligibility for special education will continue to be a major function of most school psychologists. However, the change to an ecological model for service delivery has major implications for the nature of assessment practices. Rather than emphasizing methods that relate primarily to eligibility determination, assessment must focus on generating information that can be used to develop effective interventions.

COLLABORATION: THE KEY TO CHANGE

If there is one clear fact, it is that meaningful change in our education system will be brought about only through collaboration at all levels, including individuals, groups, organizations, and disciplines. If education is to change, and if school psychology is to achieve its desired future, school psychology must be part of those collaborative efforts.

Collaborative Consultation

Collaborative consultation represents a viable framework for the delivery of all school psychological services. Unfortunately, the term *consultation* has been so overused that it is almost devoid of meaning to many people. It often conjures up the image of the "expert" who listens briefly, diagnoses the problem, and then prescribes the remedial procedure to be carried out by the person requesting assistance. That expectation is in fact accurate for consultation based on the medical model of practice. However, the school psychology literature emphasizes a *collaborative* approach to problem solving in which the person requesting assistance and the person offering assistance maintain equal status and cooperatively try to develop an effective strategy for resolving the concern.

Although Rosenfield emphasizes an instructional application of consultation, consultation is a problem-solving *process* that is equally applicable to a wide range of school-related concerns. For example, collaborative consultation could also be used in the development and implementation of cognitive-behavioral intervention methods, as discussed by Hughes.

The future success of our efforts to address the many problems facing our schools and our students is dependent on developing and emphasizing teacher support mechanisms. The service delivery system currently in place in most schools invests almost all special services resources in the categorical special education system. Special services personnel, such as school psychologists, are typically so overloaded with related responsibilities that they are simply not available to offer support to classroom teachers. As a result, teachers often see only one option available and refer students with special needs for special education.

When school psychologists change to a consultation model for service delivery, they offer direct support to classroom teachers in their efforts to enable more students to succeed in the regular classroom (Zins et al. 1988). Furthermore, in contrast to the medical model, consultation generally emphasizes an ecological approach to problem analysis and problem solution (Gutkin & Curtis in press).

Regrettably, despite the importance of consultation as a service delivery framework and the expressed desire of school psychologists, teachers, administrators, parents, and students for increased emphasis on this job function, many entrants to our field have *not* been formally trained in consultation (Meyers, Wurtz & Flanagan 1981). Needless to say, the field of school psychology will not be able to bring about a major redesign of service delivery, and thereby achieve its desired future, if training programs continue to neglect this critical area.

System-Level Orientation

Beyond the implementation of a collaborative consultation model to provide support to classroom teachers and to intervene in student-related problems, school psychologists must broaden their perspectives and attend to system-level variables. As noted above, students are influenced by a broad range of environmental forces. For example, curriculum, seating arrangements, schedule, instructional methods, and staff morale all impact on students. Knoff (1984) notes that many of the child-centered problems for which students are referred are later found to relate to system variables. Witt and Martens (1988) express concern about the frequent tendency to focus on the problems of the student rather than on organizational and environmental factors that should be modified. They cite an organizational case study by Curtis and Metz (1986) as an exam-

ple of system-level intervention. System-level change also offers one of the greatest opportunities for school psychologists to engage in primary prevention in order to reduce the likelihood that problems will occur at all. As in client-centered consultation, the most effective approach to system-level change is based on a philosophy of collaboration and the meaningful involvement of all parties concerned.

REDESIGN OF THE SERVICE DELIVERY SYSTEM

The future of school psychology is directly linked to the way in which special service delivery is defined in our schools. If we are to respond to the enormous problems facing our schools and our students, school psychology must continue and intensify efforts already underway to join with other professional and parent organizations, as well as with policy makers at all levels, in totally redesigning the way in which we serve students with special needs (Graden, Zins & Curtis 1988). Rather than taking a piecemeal approach in which more programs are simply added to the existing system, the entire system must be reconceptualized (Skrtic 1987; Zins et al. 1988). In order to achieve the desired goal, change at all levels and in all arenas must be coordinated. The model that emerges should stimulate revisions in federal and state laws and regulations, funding patterns, training programs for education and special services personnel, new lines of research, and technological developments.

As is always the case, there is and will be resistance to change. However, the time is right for school psychology to make major strides forward in pursuit of its future.

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8. WHAT CAN WE LEARN FROM *YERTLE THE TURTLE*?

by Marvin J. Fine

A charming story by Dr. Seuss describes the quest of Yertle the Turtle to expand his kingdom by climbing higher and higher on the backs of his subjects. Because he believed that he could be king of all that he could see, he kept commanding all the other turtles to climb higher and higher so that he might stand on their backs. His attitude was literally "the sky's the limit." Finally, Yertle's grasp exceeded his reach. The column of turtles wavered and collapsed, dumping Yertle unceremoniously in the mud.

An analysis of Yertle's experience raises many questions: Were his goals realistic? Could he have used his followers more effectively? Would a different timetable that allowed his followers opportunities to prepare for their task have been desirable? Should there have been a fallback (as opposed to a fall-down) plan? Could his goals have been achieved by other means? Was it necessary that all his followers participate in the plan and in the same way?

The chapters here, with their exciting ideas and observations, present a rather broad picture of changes in the practice of school psychology. An inherent problem with change in an existing structure is that the structure might become weakened, even to the point of collapse. On the other hand, change can strengthen a structure. As a sage once observed, "You can either go forward or backward; staying in the same place is just an illusion." The dilemma seems to be how to select and risk certain changes while deciding what of the "tried and true" to incorporate into new structures.

The presentations in this monograph are all thoughtful and well conceptualized, but they provoke controversy as well as reflection. The beleaguered school psychologist, feeling overwhelmed by the backlog of assessment cases, might see some of these chapters as unrealistic. There might need to be broad systemic changes in how school psychology is defined in a district before the school psychologist can consider more varied or specialized functions. How school psychologists might precipitate role changes within a system that currently appears to lock them into a narrow assessment role is not dealt with extensively in this volume. The vision of how one might function more effectively can move a person toward that vision, but some strategic organizational skills will be needed

to promote substantial changes (Maher, Illback & Zins 1984). The precursor of any planned change might be the need for a reconceptualization of the service role, in effect a paradigm shift as discussed by Kurpius and Scott.

Primary prevention might be one of the most blatant omissions in a given district's profile of psychological services. School psychologists as in-service providers and program consultants can contribute to improving the mental health and instructional climate of the school. Examples include offering teacher workshops on effective classroom management, teaching students social problem-solving skills, and working collaboratively with parents. Our knowledge of at-risk students should encourage a broadened scope of practice so that psychological services through secondary prevention programs can impact on those students affected by divorce and abuse and on others whose vulnerability predicts learning and adjustment difficulties.

SPECIALIST, GENERALIST, OR PSYCHOLOGIST FOR ALL SEASONS?

In reading the chapters from the perspective of a trainer, I found myself considering a number of issues related to the scope and intensity of training as well as to entry-level questions. Even if one argues doctoral-level entry into the field as the standard, the opportunities for diverse kinds of specialization remain limited because of the realities of time and training. Is it reasonable to expect a school psychologist to have several specializations, and, as Hynd observes, is the age of the generic school psychologist coming to an end?

In the medical field the tremendous increase in specializations a number of years ago prompted the development of another specialization called "family practice." In many ways family practice was no more than what we always expected from our physician, that he or she would be knowledgeable and capable across the field of medicine, could treat us for a wide range of maladies, and would refer us out to specialists only after very careful consideration.

As school psychologists increase their knowledgeability and competency in areas of professional practice, different school psychologists in a district might develop specialized interests—for example, neuropsychology, cognitive behavior modification, instructional consultation, or assessment/intervention skills with preschoolers. These individuals are likely to continue functioning primarily as generalists, but out of recognition of their special interests or competencies, cases might be referred to them for consultation or for complete case management.

The larger the contingent of school psychologists in a district, the

greater the possibilities for some tentative divisions of responsibility, while still fulfilling basic functions. The Topeka (Kansas) schools, as an example, have experimented with a system in which school psychologists can form interest clusters and act out specializations, such as family therapy and instructional consultation. Within a group of school psychologists there are likely to be some who value an assessment role and are willing to continue in that format, thereby allowing colleagues to expand their involvement in different professional roles and activities.

CONTINUING EDUCATION NEEDS

Given the rapid growth of knowledge and technology and the nature of the profession, school psychologists will need to participate regularly in continuing education programs. Not only is such participation sanctioned by the major professional organizations, but also it makes a great deal of sense in its own right because no one can come out of a training program, no matter how comprehensive, with skills that are sufficient for a professional lifetime. A danger with the continuing education movement is that the plethora of half-day and one-day workshops creates the aura of pseudoexpertise. It would be more desirable for practitioners to become involved in *ongoing* training that is specifically organized for community practitioners.

Many practitioners will be reluctant to take large blocks of time to go back to school when they already feel basically competent; they are mainly interested in enhancing their skills with the intention of staying within their current employment situation. However, university courses are usually set up for preservice persons and do not capitalize on the existing knowledge and skills of these practitioners concerned with enhancing their skills. There is a need for universities as well as the private sector to develop continuing education programs that are specifically planned for practitioners, offered at convenient times, and extended over some duration to ensure comprehensive treatment of the subject.

A shortcoming of many training programs is the absence of close supervision in areas other than assessment, such as consultation, therapy, parent education, and program planning. Short-term workshops, typically lasting a half to a full day, can represent a good introduction to a specific area, but where is the provision for ongoing or extended supervision as practitioners attempt to incorporate the new skills into an existing repertoire? Universities with their compulsive credit counting might need to modify their sense of responsibility to the field in order to construct vehicles of supervision for experienced practitioners. Practitioners might need to take the initiative by negotiating with area universities or by forming peer study and supervision groups.

CONSULTATION AS AN ONGOING, SUPPORTIVE, PROBLEM-SOLVING PROCESS

As with any scientifically based enterprise, school psychology requires that we quest to refine our knowledge and skills, to become more effective, and to push forward. This posture prompts a kind of cult of "recency." We want to know what's new, and we eagerly await new products. The quickest way to wealth in school psychology is to develop a new test purporting to do something different or better than any other test. The American question still seems to be "How can we do it faster?" Unfortunately, though, tests don't "cure" kids.

Persons in the field for several years typically experience the coming and going of "great ideas." To this writer's knowledge there is no diagnostic or intervention procedure that is unequivocally the "answer" to effective service. People working together, judiciously applying their professional skills over time, can precipitate positive changes. A "back to the drawing board" mentality is useful to avoid the notion that we know what will or should work in every situation.

Whether it be through instructional consultation, or the use of cognitive psychological strategies, or the greater appreciation of biological factors, or the development of services for preschoolers, the school psychologist typically acts out her or his involvement through the process of personal interaction with other individuals. These other individuals might have their own ideas about what will work or what is appropriate, and thus the school psychologist needs good interpersonal and collaborative consultation skills. Perceiving the psychologist as a facilitative individual is arguably as important today as it has been in the past (Schowengerdt, Fine & Poggio 1976). Teachers who perceive the consulting psychologist as a facilitative individual in terms of empathy and warmth are more likely to work collaboratively with the psychologist and to value the services being rendered (White & Fine 1976). It is important to understand consultation and intervention from a process perspective. That is, regardless of the approach to intervention, that intervention tends to be ongoing, and typically the teacher is the most vital component because of his or her daily involvement with the student. The value of backup consultation and support by the school psychologist should not be underestimated. Teachers who experience ongoing support are more likely to continue investing time and energy in the intervention plan.

It should also be noted that when we talk of facilitating and of being supportive of teachers, we are looking at characteristics of the school psychologist that cut across particular orientations. For example, we have found that teachers rate behavioral consultants as being as facilitative as mental health consultants, even though a stereotypical view of these two

orientations might see the mental health consultant as warmer and more facilitative (Slesser, Fine & Tracy 1988).

The growth of interest in specialty areas that usually have a content orientation should not obfuscate the continued importance of the school psychologist's assuming a collaborative stance. Curtis also emphasizes this point, viewing collaborative consultation as the framework out of which the school psychologist offers services.

SOME OMITTED AREAS OF CONCERN

Because the breadth of this volume is limited, a number of important areas of professional practice have not been considered. Offering crisis intervention (Sandoval 1988), implementing social skills training (Elliott, Gresham & Heffner 1987), working with families, and assuming a more systemic/ecological posture in approaching specific school problems (Fine 1989; Fine & Carlson in press) are areas that are being given considerable attention professionally but that are not touched on in this volume. In *School Psychology: The State of the Art*, Ysseldyke (1984) described sixteen domains of competency: assessment and decision making, basic academic skills, basic life skills, social skills assessment and training, individual differences in development and learning, management of instruction, classroom management, classroom organization and social structures, systems development and planning, school consultation, school-community relations, parent involvement, multicultural concerns, research, school psychology and the law, and personnel development. Elliott and Witt (1986) feel that beyond these areas of competency, there is a broader range of issues concerning delivery models and systems and the organization of services. Curtis in his commentary speaks to the need to consider systems-level changes that are coordinated and comprehensive rather than taking the piecemeal approach to change that has perhaps been more characteristic of the field.

The school psychologist's contributions to prevention programs could constitute a volume of its own. Prevention efforts would need to address administrative philosophy, the dissemination of information regarding at-risk students, the development of support programs (such as children-of-divorce groups), and, most importantly, ways of involving parents as allies and collaborators with educators.

THE "PERSONAL" DIMENSION

A final observation is that in promoting change, it would be dangerous indeed to ignore either those persons initiating the change (practic-

ing school psychologists) or those whose participation and involvement are vital (classroom teachers). Much credit needs to go to Witt and his associates (Witt & Elliott 1985; Witt & Robbins 1985; Elliott & Witt 1986) for their study of the kinds of interventions that teachers find acceptable. Bardon (1986) cogently observed that "Adopting a framework for psychological services that fits the language and goals of educators may serve to improve communication and may also serve to make psychological services even more useful" (p. 76). These observations were not meant to suggest that psychologists should automatically comply with teachers' requests; rather, awareness of and sensitivity to teachers' concerns, their ways of conceptualizing problems and services, and the kinds of interventions that they prefer have become important aspects of school psychological services. The collaborative consultation process is exceedingly important not only as a problem-solving format but also as a vehicle for altering perceptions of needs and services.

Much less effort has been focused on the personal and professional satisfaction of the school psychologist. As a trainer and field supervisor, I am only too well aware of the differences among practitioners in their interest and comfort levels in working with students, parents, and teachers. It is not surprising that a number of school psychologists, despite periodic complaints to the contrary, are really satisfied with a student-focused assessment role. They perform that role well and make a useful contribution to the education enterprise. Others, by personal inclination, might reach for different roles involving more diverse service functions with teachers, administrators, or parents. Can all school psychologists become effective collaborative consultants, group process persons, or parent educators? And if they can, will they want to as a matter of personal preference? Change within the profession might be more challenging than how a changing profession interfaces with the broader education community.

The burnout rate among school psychologists and teachers is not surprising, given the pressures inherent in these positions. But who should be aware of those stressors if not the school psychologist? School psychologists have much to contribute to the mental health climate of education settings and are among the key persons to address the stress-burnout syndrome through various kinds of programs and activities. It should be recognized that stress management requires continuing procedures rather than a "one shot" workshop on relaxation techniques.

The future is likely to see many exciting changes in the practice of school psychology. Hopefully, those who write on change and who are in positions to initiate broad changes will not lose sight of the need for teachers and school psychologists to experience personal satisfaction and a sense of the worthwhileness of their activities. Yertle the Turtle's experiences are worth remembering.

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